Croonian Lectures
ON
MIND, BRAIN, AND SPINAL CORD,
IN CERTAIN MORBID CONDITIONS.

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LECTURE I.

MR. PRESIDENT AND GENTLEMEN,—In the present lecture my subject will be speculative rather than practical, and yet not altogether without practical bearings; in the two lectures which follow I intend to be practical enough—so practical as to make amends for all my shortcomings in that respect now. The actual plan pursued will be to speak, in turn,—on Mind,—on Incipient Insanity,—on a state which is at the bottom of hysteria, hypochondriasis, and other disorders of the nervous system, and to which I propose to give the name of Neuriasis,—on Cerebral Exhaustion,—and on Spinal Exhaustion. The present lecture will be wholly given to the first-named subject; the remaining subjects will be dealt with in the second lecture and in the third.

CONCERNING MIND.

I find it difficult to sympathise with the disposition to materialise mental phenomena which is so much in accordance with the spirit of the times—the *zeit-geist*. I cannot bring myself to believe that mind is resolvable into a function of brain—into mere cerebration; and the more I reflect upon the subject, the more I am indisposed to accept this materialistic view. If I reflect, for example, upon the workings of *memory*, before long I find myself regarding them from a spiritualistic rather than from a materialistic point of view; and, do what I will, I cannot prevent myself from coming to the conclusion that mind must have its foundation, not in matter, but in spirit, or rather in a central something underlying both matter and spirit. In the limited time at my disposal it is of course impossible to say much to the purpose upon so wide a subject as mind. At most, indeed, all that is possible is to make a few comments and suggestions, and leave them to their fate without making any serious attempt to fight for them; and what I now propose to do is simply this and no more, taking *memory* as my text.

Coleridge, in his Biographia Literaria (vol. ii., p. 112), relates the case of a girl in which is to be found a very cogent proof that there is something imperishable in memory. "This case," he says, "occurred in a Catholic town in Germany a year or two before my arrival in Göttingen, and had not then ceased to be a frequent subject of conversation. A young woman of four or five and twenty, who could neither read nor write, was seized with a nervous fever, during which, according to the asseverations of all the priests and monks of the neighbourhood, she became *possessed* by a very learned devil. She continued incessantly talking Latin, Greek, and Hebrew, in very pompous tones, and with most distinct enunciation. This possession was rendered more probable by the known fact that she was a heretic. Voltaire humorously advises the devil to decline all acquaintance with medical men, and it would have been more to his reputation if he had taken this advice in the present instance. The case had attracted the particular attention of a young physician, and by his statement many eminent physiologists and psychologists visited the town, and made cross-examination on the spot. Sheets full of her ravings were taken down from her mouth, and were found to consist of sentences, coherent and intelligible each for itself, but with little or no connexion with each other. Of this, however, a small portion only could be traced to the Bible; the remainder seemed to be in the Rabbinical dialect. All trick or conspiracy was out of the question. Not only had this young woman ever been a harmless, simple creature, but she was labouring under a nervous fever. In the town in which she had been resident for many years as a servant in different families, no solution presented itself. The young physician, however, determined to trace her past life step by step; for the patient herself was incapable of returning a rational answer. He at length discovered a place where her parents had lived; travelled thither, found *them* dead, but an uncle surviving, and from him learnt that the patient had been charitably taken by an old Protestant pastor at nine years old, and had remained with him some years, even till the old man's death. Of this pastor the uncle knew nothing but that he was a very good man. With great difficulty, and after much trouble, our young medical philosopher discovered a niece of the pastor's, who had lived with him as a housekeeper, and had inherited his effects. She remembered the girl; related that her venerable uncle had been too indulgent, and could not bear to hear her scolded; that she was willing to have kept her, but that after her patron's death the girl herself refused to stay. Anxious inquiries were then, of course, made concerning the pastor's habits, and the solution of the problem was soon obtained. For it appeared that it had been the old man's custom for years to walk up and down a passage in his house into which the kitchen door opened, and to read to himself, with a loud voice, out of his favourite books. A considerable number of these were still in the niece's possession. She added that he was a very learned man, and a great Hebraist. Among the books were found a collection of Rabbinical writings, together with several of the Greek and Latin fathers; and the physician succeeded in identifying so many passages with those taken down at the young woman's bedside that no doubt could remain in any rational mind concerning the true origin of the impressions made upon her nervous system."

"This authenticated case," continues Coleridge, "furnishes both proof and instance that reliques of sensation may exist for an indefinite time in a latent state in the very same order in which they were originally impressed, and contributes to make it even probable that all thoughts are in themselves imperishable; and that if the intelligent faculty should be rendered more comprehensive, it will require only a different and apportioned organisation—the body *celestial* instead of the body *terrestrial*—to bring before every human soul the collective experience of its whole past existence. And this—this, perchance, is the dread book of judgment in whose mysterious hieroglyphics every idle word is recorded! Yea, in the very nature of a living spirit, it may be more probable that heaven and earth shall pass away than that a single act—a single thought—shall be loosened or lost from that living chain of causes, to all whose links, conscious or unconscious, the free-will, our only absolute *self*, is co-extensive and co-present."

As bearing directly upon these remarks of Coleridge, De Quincy also says: "I was once told by a near relative of mine (a woman of masculine understanding and unimpeachable veracity) that, having in her childhood fallen into a river, and being on the very verge of death, but for the assistance which reached her at the last critical moment, she then saw her whole past life, clothed in its forgotten incidents, arrayed before her as in a mirror, not successively, but simultaneously; and that she had at the same time a faculty developed as suddenly for comprehending the whole and every part. This, from some opium experiences, I can believe. I have, indeed, seen the same thing asserted twice in modern books, and accompanied by a remark, which is probably true—viz., that the dread book of account which the Scriptures speak of is, in fact, the mind itself of each individual. Of this at least I feel assured, that there is no such thing as ultimate *forgetting*; traces once impressed upon the memory are indestructible. A thousand accidents may and will interpose a veil between our present consciousness and the secret inscriptions on the mind. Accidents of the same sort will also rend away this veil. But alike, whether veiled or unveiled, the inscriptions remain for ever: just as the stars seem to withdraw before the common light of day, whereas, in fact, we all know that it is the light which is drawn over them as a veil; and that they are waiting to be revealed whenever the obscuring daylight itself shall have been withdrawn."

Instances pointing to the same conclusion might readily be multiplied, but the two which I have culled from the pages of these classical writers are of themselves sufficient to make it much more than probable that the records of memory are indelible, that it is the power of reading the

obscurer passages which is alone wanting now, and that this power will not always be wanting. And if this be so—and that it is so is to me a conviction not less certain than that which testifies to my own existence,—then memory becomes altogether unintelligible unless it be supposed that the mind of which it is a faculty has its foundation, not in perishable and ever-perishing brain, but in something, perhaps a *spirit*, of which *imperishability* may be an attribute.

There is also good reason to believe that the records of memory are not all preserved *within* the body—that some of them have been noted down elsewhere. The knowledge of identity, by which a thing once seen is recognised as having been seen, is a reason for believing that this thing retains in itself some mark by which it can be recognised. Without such mark any knowledge of identity, any act of recognition becomes impossible, inasmuch as every fresh impression of the same thing must strike upon the mind as something new and different. To me, indeed, the knowledge of identity which is involved in the act of recognition is in itself, and by itself, a conclusive proof that the records of memory are not all kept in the ganglionic brain-cells—that some of them are to be found elsewhere: nay, it even suggests the idea that these latter may be the originals of which the former are only copies at most, copies, too, which may perhaps be dispensed with. For, after all, if mind be a spirit, what is *within* and what is *without* in relation to it? If heaven be *within* me—and I cannot doubt the authority for so believing,—then surely the world in which I live is not beyond me. And if mind be a spirit, this idea is not altogether unintelligible; for spirit is in essence precisely that which is not hemmed in by bounds like body. If mind be a spirit indeed, it must have the capacity of embracing all things, of *including* all things. If mind be a spirit, it may for that reason be in very deed *ubiquitous*. And thus there is no need that the records of memory should be copied in the ganglionic brain-cells, all that is wanted being that they should remain wherever they were originally written down, no matter where; for by virtue of its faculty of ubiquity it is as easy for the mind to find them in one place as in another. Nay, it must be more easy for the mind to find these originals than the copies in the perishable and ever-perishing brain-cells. How can a record which is indelible be written upon a tablet which is no more constant than a drop of water at a given point in an ever-flowing stream! What never-ending work for the recording angel or other agent whose hard task, according to this view, it is to keep this record! Surely, no demand can be made upon credulity more incredible than this. And yet it is this very demand which is made when it is supposed that the records of memory are stored up in certain brain-cells. Moreover, to suppose that memory has its seat in these cells is to attribute to the very simplest and crudest of organic forms the most exalted of functions—to make a demand upon credulity almost as great as that which is required to see, potentially, man himself, body and mind, in a marine ascidian, which creature is little more than a large simple cell. No doubt, these ganglionic brain-cells have some all-important function to fulfil in relation to memory and every other mental faculty, but it does not follow that this function is that which it is assumed to be. It may be, indeed, that they have to help in keeping up that electrical state of the brain and of the nervous system generally without which mental action of any kind could not take place at all—that the brain and the rest of the nervous system is a wonderful telegraphic apparatus by which the mind communicates with its own body and with other bodies; or it may be that they have some other function, equally essential, which has yet to be discovered: but be this as it may, after what has been said, it is difficult for me to believe that their function can be that of storing up within themselves the records of memory. After what has been said, indeed, the difficulty is rather *not* to believe,—that memory has its seats anywhere and everywhere wherever the mind may have roamed,—that, once made and appropriated, these seats are never abandoned,—and that it is by the mind being always upon them, and awaking or remaining awake, not by reading any words or signs or symbols written upon them, that the memory acts, what is remembered coming back, as it does in fact, *as a scene*. At all events, the fact that a thing outside the body, once seen, is recognised as having been seen is to me a reason for believing that the memory relating to it is, in part at least, lodged in it; and thus it is that I am left free to conclude that the mind of which memory is a faculty may range beyond body as a spirit may be supposed to range—that mind, indeed, may be a spirit, of which one attribute is *ubiquitousness*.

This view of mind, as gathered from the history of memory, would also seem to derive no small degree of countenance from the light it sheds upon more than one recondite mental question.

If mind be a spirit, and if memory testifies to the *immanence* of this spirit in the things remembered, wherever these may be, no matter whether without or within, then once to know a thing is always to know it, and this act of *recognition* ceases to be separable from the act of *cognition*. Upon this view a thing once seen from that time remains part and parcel of the spiritual being of him who sees it, and it must be recognised if seen again or remembered without any question being raised as to its identity. Once held it is never let go, and by ever holding it the mind wants no other proof of its identity.

Again: the view here taken of memory is not a little supported by the light it sheds upon the association of ideas. For if the mind remains wherever it has roamed, never vacating territory once occupied, does it not follow that the subjects or objects appropriated must ever remain in that particular relation to each other which they occupied when first appropriated, so that for the memory to go back along any one chain of thought to any one link in that chain is of necessity to bring to the mind's eye the overlappings of the adjoining links?

Again: in this view of memory there is what would seem to be a sort of explanation of the strange backward way in which memory fails as old age advances and under the ravages of certain diseases. In this failure recent events are forgotten first, then those which are less and less recent in turn, until at last all that is remembered is that which happened long long ago. Very recently, for example, I saw a French lady whose case supplies a memorable instance of the way in which disease may act in this manner, the case being one of relapsing mania, with epileptiform symptoms, rapidly passing into dementia. Until she reached her sixteenth year this lady lived in France and spoke only French; after this time she came to live in England, and began to speak English. When about twenty she married an American, and from this time for the next twenty years she lived sometimes in America, sometimes in England, speaking English habitually, and French scarcely ever. About two years ago, when I saw her first, her mind was feeble, and that was all; four months ago, when I saw her last, she had forgotten everything connected with her married life, her English not excepted; and if asked who she was and where she was, she gave her maiden name, and mentioned in French the street in Paris where she had lived when a girl. So completely had she forgotten her English, and gone back to her French, that it had become necessary to change an English for a French maid. What happened in this case, and happens in cases of the kind, as well as in old age, is the very reverse of what might be expected to happen. It might be expected that the memory of early events would be the first to fade, and that of recent events the last; but in reality there is no good ground for this expectation. So far from this being the case, there is indeed reason for believing that that which actually happens is precisely what might be expected to happen. It is possible, regarding it as a spirit, to believe that mind goes on expanding through a series of concentric circles until it reaches its maturity, and that, so long as it retains its full vigour, it retains its hold upon the memories in each of these circles, inner and outer; and that afterwards, when a contrary movement to that of development is taking place, the mind, as it were, falls asleep in circle after circle in which it had previously kept awake, until at last it only remains awake in the innermost circles of all, and that in this way the memories of recent events, which are in the outer circles, will be the first to fade, and those of early events, which are in the inner circles, the last. That would happen, in fact, which is really found to happen; and thus, what seemed to be so very unintelligible at first becomes not altogether inexplicable when it is more clearly looked into.

Upon this view of mind, also, it seems to be possible to not a little simplify the operations of mind, so far as the nerves are concerned, in the processes of muscular motion and sensation. If the mind be, not in brain exclusively,

but *in* the muscles and *in* the organs of sense, it may act upon the muscles and be acted upon by the senses *directly*; and the nerves may have nothing to do in the matter except to serve as telegraphic conductors between distant parts of the organism which must be kept in communication, and as parts of a nervous system one of whose functions is to keep up an electrical condition without which any form of mental manifestation would be impossible.

And thus memory may show, and that too in no unequivocal manner, that the mind of which it is a manifestation is something more than a function of certain brain-cells, something more than a mere mode of cerebration, by showing that mind can have no less unsubstantial a foundation than that which can only be supplied by a spirit which is at once imperishable and ubiquitous in its essence. Nay, it is possible to find in memory, in addition, certain reasons for believing that the spirit of which mind consists is endowed, not only with imperishability and ubiquitousness, but with what, without any great stretch of fancy, may be looked upon as a creative power; for may not the particular *ideas* with which the memory is stored have their origin in a kind of *fiat* on the part of mind akin to that by which, according to Revelation, all things were called into existence in the first instance?

Nor is a different conclusion to be drawn from the stories told of mind by other mental faculties. On the contrary, each and all of these faculties—as it would not be difficult to prove if I had only time to do it in—point, beyond body, to a spirit wondrously endowed with various gifts—*imagination* to a spirit absolutely superior to time and space, and having also a creative faculty,—*will* to a spirit endowed with almost indomitable energy,—*intellect* to a spirit of intelligence which grasps at all things and scarcely fails to comprehend them,—*conscience* to a spirit recognising the absolute supremacy of truth and justice and goodness,—the *religious instincts* to a spirit which is capable of seeking and receiving Divine help,—the *conviction of personality* to a spirit which is, not a vague essence, but an actual person.

The story told of mind in these several ways, indeed, is the same in substance as that told by memory. It is, that mind must have for its basis, not body merely, but spirit endowed with *divine* attributes. It is a story, in short, which tallies well enough with that told in the Scriptures—that man was created in the image of God, even of Him who is invisible, self-existent, eternal, omnipresent, omniscient, almighty Spirit, who is perfectly just and true and holy, and who is at the same time the very cause and substance of all things; and that man's present state is not this, but one in which this divine image is marred at best, and sometimes obliterated—which tallies with this story rather than with that in which man is regarded as having originated in a marine ascidian, or in a creature still lower down in the scale of being, and as having *risen* to his present position, ever ascending from a lower grade to a higher through many different forms of being—first brute, then human—by a process of evolution, dependent upon his own aspiring efforts in the main, which efforts have had to be carried on with weariness and uncertainty through countless ages. Upon the former view, as it seems to me, something is really gained in the interpretation of mind; upon the latter view, nothing, or even less than nothing if that be possible. But I shall be better able to discuss this question presently; and here, therefore, I will only repeat what I have already said, namely this, that the story of mind told hitherto is intelligible enough if man have that spiritual nature which he is declared to have in the Scriptures.

Nor is there even in body a flat contradiction to these soaring notions respecting mind. The visible body is certainly a transitory phenomenon. The matter of which it is made is ever changing, never abiding. Something abiding there is, no doubt, or the visible body could not continue in existence; but that something cannot be that which meets the eye. And if that which remains is not this, what is it? Is it spirit? Is it, in short, an archetypal form, a spiritual body, the body celestial to which Coleridge alludes in the quotation already given? May it be that this archetypal form, this spiritual or celestial body, is made manifest to the eye by matter passing across it, and being illumined in passing, as a ray of light through a dark room is made visible by the illuminated motes of dust floating in it? Like the appearance which went before the Israelites of old, in a pillar of cloud by day, and in a pillar of fire by night, may it be that the visible body hides rather than reveals the real presence and person within it? Is the natural visible body capable of a transformation by which the ties of earth may be so far unloosed as to allow it to float in air or walk on water, or become actually invisible, without losing the capability of again becoming visible—a transfiguration by which, as a spirit, it may be anywhere in a moment, not by becoming mere disembodied spirit, but by becoming spirit capable of embodiment wherever it may be, anywhere, everywhere? If there were time for the search, it would not be difficult to find much to justify an affirmative answer to each of these questions. As it is, all that I can do is to say that the visible body must have its foundation, like mind, not in mere matter, but in spirit—that there is nothing in the body, philosophically regarded, to contradict this conclusion respecting mind—nothing, in short, to contradict the view which regards man as having a spiritual nature, which is the image of the Divine Spirit, and which explains his various powers, bodily and mental alike, as *gifts*, which are now in great measure withheld, because man will act, practically at least, as if he were independent of the Giver.

Taking this view of mind and body, it is easy to find a deep meaning in the grand old tale of him who slew the Gorgon and won Andromeda as a bride. For what is the gist of this story? Perseus triumphs, not by his own unaided earthly might, but by gifts from on high, by which his body is transfigured, spiritualised, de-materialised, energised. He receives the polished shield of Pallas Athené, the cap of Pluto, the winged sandals or talaria, and the diamond-bladed weapon, herpé, of Hermes. Shod with the sandals, he is emancipated from the material ties which bound him to earth or dragged him under water, and he can move as he lists, with the freedom of a spirit, over earth and sea, without touching either, but he is still visible. Covered with the cap, this emancipation from the material world is still more complete, and he becomes invisible—invisible, yet visible as before the moment he uncovers himself. Armed with herpé, with equal ease he beheads the Gorgon, or severs the adamantine chains which bind Andromeda to the rock. In order to kill the Gorgon he must be thus shod, covered, armed; and, besides all this, he must use his shield. He must look only at the image reflected there, and direct the stroke of herpé accordingly. A single glance at the Gorgon herself and at that very moment he becomes stone. And why? Is the eye to be turned away from this beautiful terror in order to signify that the visible material object must not be mistaken for the invisible spiritual substance which alone is real, and that not to turn the eye away is to mistake matter for spirit—a mistake which may be said to materialise or turn into *stone* the observer? Is the eye to be turned away from the face of Medusa to its reflection on the shield in order to signify that the distinction of within and without is a blunder not less compromising than that which mistakes spirit for matter—that there is no without so far as the mind is concerned, and that objects which, judged only by the eye and the senses, seem to be without, are really comprehended within the all-pervading spiritual being of the observer?

There is a strange fascination in these old stories, and the fancy is very apt to run away with the reason in dealing with them. Still after what has been said, there can be no great difficulty in bringing the reason to accept this particular interpretation. After what has been said, indeed, the difficulty is rather to find another interpretation which may be acceptable. And yet a full half of what might have been said to the same effect remains unsaid—namely, that of which the material is to be found, not in profane philosophy, ancient or modern, or in profane poetry, ancient or modern, but in sacred philosophy and poetry. Nay, that which remains unsaid is much more than the full half of what might have been said, for it is not too much to say that the grand proofs of the view of mind and body which has been taken are only to be found in sacred philosophy and poetry. But this is a part of my subject upon which I must not enter here, though, as will be well understood, in refraining from doing this I omit arguments of the weightiest sort in favour of the conclusions at which I have been compelled to arrive. As will be well understood, I say,—for it must be familiar to all that this philosophy and poetry is full of statements which are absolutely meaningless if there be not a divine spirit in man whose office it is

to do all the work of mind, and if the body or flesh be not capable of spiritualisation.

Having arrived at this conclusion it is impossible for me to have much sympathy with certain views which have found much favour in many quarters, and upon which, before coming to a close, I would wish to say a word or two, less with the intention of controverting them, than for the purpose of showing that I have not overlooked them. I might make many references: I content myself by referring to the views with which the names of Auguste Comte, Mr. Herbert Spencer, Professor Bain, and Mr. Darwin are associated.

The positive philosophy of Comte is not to be easily disposed of in few words. Its author seems to call it *positive* because he regards all other philosophies as *negative*, or negative in their results at any rate; at least, this is a not unfair inference from the temper in which many of his disciples, the positivists, as they have come to be called, are apt to bring it forward. Master and disciples alike believe strongly. And what do they believe? Fundamentally this. The world is made up of matter and the forces which are immanent in matter. Beyond these phenomena of matter and material force nothing is known, or to be known, and even this possible knowledge is not absolute, but relative. Everything divine, everything metaphysical is repudiated; no attempt is made to look into the essence of things, or to deal with ultimate causes, whether efficient or final; and all that is done is to study phenomena in themselves and in their mutual relations, with a view to discover their laws, which laws are the constant sequences which unite them as antecedent and consequent. Beyond matter and material force, then, the positive philosophy knows nothing, or if a step further is taken it is from force to matter, rather than from matter to force. Matter, it is held, is in all cases endowed with certain *physical* properties: *chemical* properties are developed by a binary combination of matter: *vital* properties come into existence when matter enters into more complicated combinations. All vital manifestations are no more than physical actions arising necessarily in particular organisations. The mind is nothing more than cerebration, and this or that system of phrenology supplies the key which will unlock all its mysteries. A physical basis, *la physique sociale*, is also found for the phenomena of *social* life. Just as the life of an individual man is supposed to result from certain physical changes in the organism belonging to that man, so the life of a community, social life, is supposed to be equally dependent upon certain physical changes in that larger organism (so to speak) in which many men form component parts. *La physique sociale* supplies the explanation of all that is mysterious in social life, doing for this life all that is done for the life of the individual by (to coin an analogous expression) *la physique individuelle*. All *a priori* reasoning from any abstract axiom is looked upon as purely chimerical: all reasoning must be founded on actual observation. All phenomena are regarded as subject to invariable material laws: and the sole object of positive philosophy is to discover these laws, and to systematise them in the direction of unity—to regulate by reducing them to one single law. One grand law, which Comte claims to have discovered, and upon which he bases his demonstration in many parts of his grand argument, is this—that there is an inevitable order in the discovery of truth, testified to by the history of mankind, no less than by that of individual man, by which the view taken of truth is first theological or fictitious, then metaphysical or abstract, then scientific or physical or positive. A theological view of things is that which serves as the necessary starting point in the movement of the human intelligence. In this infantile condition the mind grasps after primal and final causes, and all phenomena are referred to the direct and arbitrary interference of supernatural agents, more or less numerous at first, and of one grand agent at last, so that monotheism is the climax of development in this way of thinking. To this follows the metaphysical view of things, in which abstract and orderly forces are made to take the place and do the work of the arbitrary supernatural agents, which haunted the fancy before theological trammels were shaken off. The grand generalisation of *nature*, in this way of thinking, corresponds to that of monotheism in the former way. Last of all, in the maturity of the intelligence, comes the physical, *positive*, way of looking at things, in which everything metaphysical no less than everything theological is given up as mere child-play with which manly intelligence can have nothing to do. Comte himself says, man is "théologien dans son enfance, métaphysicien dans sa jeunesse, et physicien dans sa virilité," and adds that all men "au niveau de leurs siècles," may verify this for themselves, if they will, in their own experience. Do what I will, however, I cannot bring myself au niveau de mon siècle. I cannot bring my mind to give up metaphysics and theology, and to believe that "whatever for man is true men can verify." Nor can I believe that the history of mankind or of individual men justifies the conclusion that the mind of man develops in a way which associates theology and metaphysics with states of comparative ignorance. Often, I am sure, the order of development is the reverse of this, men who, without knowing it perhaps, were practically positivists to begin with, becoming dissatisfied with speculating upon phenomena and their laws, and ending by taking metaphysical and theological views of everything. And certainly Comte's own history is in flat contradiction to the doctrine in question. Up to a certain point he is positive enough; further on, as his later writings sufficiently prove, the objective synthesis of his positive philosophy does not content him, and he must have a subjective synthesis, and even a religion of a certain sort, with a most complicated *cultus*—a subjective synthesis, in which the most unselfish love, *altruism* in place of *egoism*, figures as the law of laws to be evolved. He passes from physics, that is to say, on into metaphysics, but he can scarcely be said to have passed on beyond metaphysics into theology, for though he has a religion of a sort and a complicated cultus, he still holds the same negative attitude towards God—the Grand Etre of which he talks being no more than an impersonal abstraction which he makes for himself as an object of adoration out of all the good qualities of all men in all times, together with certain additions derived from pet dogs and other beasts which possess any good qualities. But it really does not matter whether Comte himself remained a consistent positivist throughout his life or not. The question is, whether this positive philosophy as professed by the positivists now renders it necessary to reconsider the conclusions already arrived at respecting mind and body, and this question is soon disposed of. For what is the case? Matter is all in all. The several manifestations of mind are only different forms of cerebration, localised according to the rules of this or that form of phrenology. And therefore the question remains where it was, the answer to this positivist view being simply that which is applicable to any materialistic view. Indeed, instead of becoming a convert to positivism I feel compelled to take up a position in antagonism to it, and to suppose that brain has its origin in mind rather than that mind has its origin in brain. The elements of living brain cannot be kept together without life; of this there can be no doubt: and, if so, then the very foundations of the notion that mind is a mere function of brain, mere cerebration, are swept away. For what holds good of the relations of simple life to brain must hold good also of the relations of mind to brain, mind being only life in its fullest manifestation. And thus I fail to find anything in the positive philosophy to make it necessary to set aside, or even to qualify, any of the conclusions respecting mind and body to which I have been led by the course of the argument hitherto.

Nor am I disposed to abandon these conclusions and become a disciple of Professor Bain. Mind, Dr. Bain holds, objectively as well as subjectively, is made up of feeling, intellect, and will. By the side of all mental phenomena there runs a line of physical causation. The two worlds, mental and physical, must stand or fall together. Mental phenomena are as subject to absolute law as physical phenomena, and as incapable of irregular action. As with the physical, so with the mental, under the same circumstances there must be precisely the same consequences. The power to act voluntarily upon the muscles, or in any other way, is in reality no independent power; the act, when thoroughly looked into, is only a reflex phenomenon, in originating which the feelings have much to do. Free will, however exercised, whether in choice, deliberation, self-determination, moral action, responsibility, or in any other way, is nothing more than a delusion engendered in self-conceit, the will being as much the subject of law, and as little entitled to freedom of any sort, as the feelings and the intelli-

gence. Even the conviction of personal identity must be got rid of in the same manner, this like the will being lost in law. But surely a view like this cannot be otherwise than unsatisfactory in the fullest sense of the word, if what has been said upon mind have any claim to be regarded as probable. It is materialistic, with all the shortcomings of this view; and it supplies no real explanation of what it professes to explain. It supplies no real explanation; for what is gained by saying that mind is made up of feelings, intellect, and will, and by describing the various ways in which these act and react upon each other, in turn cause and effect? Such description is full of interest, without doubt; but when it is made I am as far as ever from understanding why I feel, why I reason, and why I will; and the more I reflect upon the subject, the more unwilling am I to explain myself, feelings, reason, and will, as a highly complicated mechanism, which is set to go in various ways, but which must always go in the same way if set to go in the same way. There is that in me, indeed, which altogether repudiates a view so mechanical; and with this remark I may content myself, for I have already said enough to show why I do this, and what view I would substitute for it.

With Mr. Herbert Spencer I have much sympathy, and yet I cannot be content to stay at the end at which he arrives and stays. I thoroughly sympathise in his belief that all true philosophical reasoning has its end in unity,—that there are abundant proofs of this unity in matter and spirit, in things visible and things invisible,—that the truths of science and religion find reconciliation in this unity. I reject, as he does, a purely spiritualistic view of things no less than a purely materialistic view. But I cannot agree with him in believing in indefinite evolution. Nor can I agree with him in believing that life and mind are to be interpreted in terms of matter, motion and force, even though this interpretation be taken as only symbolising provisionally arbitrary aspects of an Unknown Reality; and, least of all, can I agree with him in believing that the principle of unity, underlying matter and spirit alike, is merely an Unknown Cause, the Unknowable, a Power without limits of either time or space, of which the nature ever remains inconceivable. Much, no doubt, is of necessity unknowable, but I would not place the limits of thought where Mr. Spencer would place them. On the contrary, I would hold that there is nothing *unreasonable* in widening these limits so as to bring within them an actual God, even the God of the Scriptures, and that by so doing a much more *reasonable* realisation of unity is to be found than that which can be found in an Unknown Reality. I would hold, indeed, that the nature of the Unknowable is to be encroached upon in this way, and to this extent, by the power of the reason, and also that there is nothing in the speculations to which I am now referring which can stamp as *unreasonable* that particular view of mind and body which it is the object of this lecture to set forth cursorily.

But what of that view of mind which arises out of the doctrine with which the name of Mr. Darwin is at present especially connected—a name which must always command the highest respect of all *naturalists*? Is not the view arising out of the doctrine of evolution altogether at variance with that which I have been led to take in this lecture? Unquestionably so. It is simply impossible to reconcile the two views; and it is also certain that if that which arises out of the doctrine of evolution be right, the other must be abandoned. What, then, are the facts upon which this doctrine of evolution is based? This is the question. Are they to be read only in favour of this doctrine, or is there another reading? I venture to think that there is another reading; but how can I make good this statement with the hands of the clock standing where they do! At most I can only throw out a hint or two of what I might say on the subject if I had the time, and this is all I propose to do.

No one can believe more firmly than I do that there is a common plan in all animals and in all parts of animals, as well as in all plants and in all parts of plants, or that there is a common unity for the whole organic world, plant and animal alike. No one can believe more firmly than I do that there are manifestations of mind, not dissimilar in kind to human mind, in the brute creation, and that the law of mind is one and the same everywhere. But it does not follow from this belief in unity that I should believe that one organ should be developed into another organ, or one animal or plant into another animal or plant. The doctrine of unity is quite as consistent with a belief that there are certain fixed differences in organs or organisms: it has nothing to do with the doctrine of evolution, except, perhaps, in making its acceptance a little less difficult, for it is a little more easy to suppose that a higher creature may be evolved from a lower if there be the same archetypal unity of plan underlying the two: more than this it cannot do.

I cannot doubt that in the embryonic life of the higher animals there is a process of development at work, by which the embryo before arriving at maturity passes through certain stages which seem to shadow forth certain permanent states of being lower down in the scale of life. I cannot doubt that in this case the more perfect is preceded by the more crude, and that there is a process of evolution at work up to a given point. But what follows? Certainly not this—that these resemblances are realities, that the embryo of a higher animal, in developing to maturity, passed through a succession of different animals each one a little more perfect than its predecessors. Certainly not more than this—that the higher animal in the embryonic period of its history, without ever ceasing to be itself, passes through certain stages of development in which there are certain *likenesses*, never very close, to certain forms of animal life lower down than itself in the scale of being—likenesses which simply bear witness to the unity of plan in all forms of animal life.

I also find it difficult to twist the marvellous improvability of man into an argument for the doctrine of evolution. Who shall say that this improvability is not restricted within certain prescribed limits. As yet man, in his struggle for life, has never turned his opportunities for natural selection so far to account as to make even the slightest advance towards physical improvement. And it is possible that the change for the better which is actually witnessed in man may have to be explained in accordance with the Scriptures rather than in accordance with the doctrine of evolution.

Nor can I rest satisfied with what may be spoken of as the more special evidence in favour of evolution. The pigeon, by developing under cultivation into what may be considered as improved varieties of pigeon, may at first seem to be the subject of evolution; but the changes produced in this way are never more than those minor changes which go to make up the differences called *varieties*, never so great as to constitute another *species* of bird. Moreover, only let the varieties thus produced be let alone for a few generations, and the inevitable result is a return to the original form of the common pigeon, if not to that of the wild blue rock-pigeon. The history contradicts the notion of evolution rather than confirms it. And so with the dog or any other animal which may be modified as the pigeon is modified; the change produced is never beyond that of mere *variety*, never into that of a new *species*; and let the constraining influences which brought it about come to an end, and, as with the pigeon, it is not long before the original wild form has again cropped out. And what other conclusion can be fairly drawn from the infertility of mules than this—that there is a barrier between different species of animals, even between those which are most closely akin to each other, by which one is prevented from passing into the other. Nay, it is even difficult to find any evidence in favour of evolution in the history of the rudimentary creatures which swarm in dense crowds around the very feet of the scale of being. Here are wonderful changes at work by which, as Dr. Bastian so clearly demonstrates, *bacteria*, the simplest of all living units, may be developed, possibly from inorganic elements, almost at the will of the experimenter, into *monads* and *amœbæ* and *paramecia*, or into the lowest forms of *fungus*—into forms of animal life, that is to say, or into forms of vegetable life; but not much is to be built upon this fact in favour of evolution. For what follows? Simply this—that these forms are unstable in the highest degree, and that, instead of passing on into higher forms of being, they presently again break up into their original bacterial units, which units are destined again and again to go through the same narrow round of combining and separating. The evolution, if evolution it be, is kept within the narrowest limits; the tendency to retrograde is quite as marked as the tendency to

go forwards; and, as respects evolution, the conclusion to be drawn is even that which has been drawn from the changes witnessed in the pigeon and the dog—this and no other.

It may be questioned, also, whether this doctrine of evolution derives as much support as it is supposed to do from the facts belonging to astronomy and geology.

The nebular hypothesis, which may be taken as the real starting-point of the doctrine in question, is certainly very nebulous. The facts upon which it is founded show unity of plan; of that there need be no doubt: but this unity of plan is really a matter quite apart from the nebular hypothesis founded upon it. Besides, where did the heat come from which kept up the nebulous state which preceded the formation of the heavenly bodies of various sorts, and what has become of it since the time of this formation? What real proof is there of the continual cooling which should still be going on according to this view? Like light and gravity, heat may result in the mutual reactions of the heavenly bodies, or be a property of one or other of these bodies; but to conceive of it as independent of these bodies is, to say the least, no easy matter. Indeed, so difficult is it so to conceive of it, that, until the difficulty is overcome, the nebular hypothesis may be set aside as a dream which is as little calculated to give probability to the doctrine of evolution as the evidence which has been already glanced at.

And so likewise with that particular evidence in favour of evolution which the facts of geology are supposed to supply. Endless ages are needed to allow of evolution: and the facts of geology are believed to testify unequivocally to the lapse of these ages. But is it so? If the rock in which the skeleton of a plesiosaurus is embedded had been deposited as slowly as it is supposed to have been deposited every trace of organisation must have decomposed and disappeared long ages before the animal could have been covered up in its bed. For the skeleton to be there at all, indeed, is a plain proof that the rock, at least to the thickness needed for embedding it, must have been deposited before decomposition had time to do its work fully. And so likewise in every other analogous case. Nay, it may even be questioned whether there has been a separate upheaval and sinking to allow of the formation of each coal-seam or limestone-bed, for many of these seams and beds which are parallel may have to be explained as *drifts*, which have to do with *one* cataclysm of upheaval and sinking rather than with *many* such cataclysms, for how could this strict parallelism be preserved if there had been many cataclysms? Moreover, it must not be forgotten that there are not a few fossils out of place in the strata, fossils which ought not to be where they are if living things had made their appearance on the earth in the order required by the doctrine of evolution.

In a word, I fail to find anywhere sufficient reason for believing that man began his history as a marine ascidian, or as a creature still lower down in the scale of being, and that he has worked his way to his present state of civilisation by ceaseless strugglings upwards—first, in countless forms of brute life, each one succeeding in the series being a little more advanced than that which went before it; and then through an interminable line of savage ancestry, of which the first in the series was only a shade more advanced than the tailless ape of which he was the immediate descendant. And glad I am that it is so; for this idea of imperfect being, ever, and almost for ever, straining after perfection, and constantly failing in the struggle, produces a feeling approaching to a painful shudder. At any rate, until these and other difficulties are swept away, I find it more easy to accept the doctrine of creation than to accept the doctrine of evolution, and to believe that each creature was created perfect in itself, and in its relations to all other creatures, and to the universe of which it is a necessary part—so perfect as to deserve to be spoken of at the beginning as "very good,"—and that man originally was no brute-descended savage, living in a wilderness, and fighting his way step by step upwards to a higher level, but a demi-god, walking and talking in a paradise with the God in whose image he was made, until, for some fault of his own, he was driven out into the wilderness, a slave to body, naked, and all but altogether oblivious of everything relating to his high original. This view, I honestly believe, is the more *reasonable* of the two; and with this confession, without saying more in its support, I would abruptly bring to an end the roundabout remarks into which I have been led by the wish to say something to the purpose *concerning mind*.

But why, it may be asked, have I dwelt so long upon this subject? Why at all in this place? Partly because I believe that to all men, to physicians most of all, the subject is of supreme interest speculatively; partly because I am sure that it has very important bearings upon the actual practice of medicine. I believe most fully that a low materialistic view of mind is mischievous in a thousand ways in the practice of medicine. It places the physician in a wrong attitude to begin with, in that, too often at least, it leads him to regard his patient as a piece of admirable mechanism which comes to pieces and is done with at death, while at the same time, reacting upon himself, it is of necessity not a little calculated to make him callous and unmindful of the high responsibilities of his office. The more, indeed, I see of disease the more I am satisfied that it is a very grave error to ignore the action of mind upon body both as a cause of disorder and as a remedy for it—the more I am convinced that mind even now—even now, for now, so far from possessing its full powers, mind must be looked upon as in great measure paralysed, *demented* even, in a morbid rather than in a healthy condition, so that, after all, in treating of mind in its present condition I am keeping to the promise in the title of these lectures, namely, to speak of *mind in certain morbid conditions*—even now, I say, I am convinced that mind is the master of the body rather than the slave. No doubt the body reacts on the mind most prejudicially, but scarcely ever does the mind fail to assert its mastery in some unmistakable way, though not always very loudly. Indeed, the familiar fact that a hopeful patient will go on living long after his body has become diseased to an extent which would seem to be more than sufficient to kill, and that a hopeless patient will die with little or nothing the matter with him, so far as mere bodily disease is concerned, is of itself sufficient to establish the position that mind is the master of body rather than its slave—that the body droops or revives because the mind has or has not given in, rather than on account of any changes in itself—and to make it probable that a primary indication, as well in the prevention as in the treatment of disease, bodily no less than mental, is to put in order as far as possible the mental condition of the patient. In the next lecture, perhaps, I may find occasion to speak a little more particularly on this subject: now I can but bring my present lecture to an end by making these broad statements.

ON CHOLERA IN INSULAR POSITIONS.*

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PRELIMINARY to the survey of the visitations of Asiatic cholera in the widely separated and distinct groups of islands of the eastern and western hemispheres, it will be well to specify some of the general principles relating to the means of its transmission, and to trace cursorily the distribution of its several epidemics in the continents to which those groups of islands are geographically or socially related.

With regard to the means of dissemination of cholera, there are now few dissentients from the opinion that cholera germs may be, and frequently have been, conveyed from place to place by specifically infected persons labouring under the spasmodic or collapse form or stage of the disease; and the opinion is as well established that those suffering from the diarrhœal form or stage are equally potent agents in spreading the disease, if not more so than the former, on account of their greater ability of locomotion, and of the freedom from suspicion with which they have been admitted into social intercourse in previously uninfected localities.

It is still an agitated question whether a healthy person

* Read before the Epidemiological Society, March 12th, 1873.

coming from an infected locality may or may not become the medium of infection; but, as far as is known to a late date, it has been considered safe to bound this personal influence among those who are under the diarrhœal form of the disease. But those who adopt a belief in "fomites," which is proved to be well founded where these are soiled by actually fermenting alvine excreta from cholera patients, and who carry their belief to its utmost limits, are agreed that, owing to the very different degrees of the personal susceptibility of cholera, which vary from time to time in the same individual, the germs of cholera may be transported by such persons, who, having run the chances of infection, afterwards move into hitherto uninfected localities. If there be any truth in such suspicions, it may be reasonably expected that insular positions will, beyond all others, afford the best means of proving or of disproving them.

Again, it may be anticipated that in those same positions there will be provided the best grounds for judging under what circumstances of place and season and through what interval the transported germs of cholera may remain dormant in a newly-infected locality, and under what circumstances of place or variations of climate they will ultimately become developed into morbific activity.

These, it will be admitted, are very important features in the etiology of so devastating an epidemic disease as cholera, and if any light should be thrown on them in the present inquiry, it will have fulfilled its part by adding another page to its history; but I shall be content if the evidence which I collate, although bringing no original light, should be judged to have strengthened the grounds on which those rely who advocate the infectiousness of cholera both by person and material, and believe in the efficacy of rigid restrictive measures for its limitation, my own views being based on the results of this inquiry.

In the history of the march of cholera since 1830 it has been definitely shown that in the first westward epidemic outburst from Asia its progress terminated at the Isthmus of Panama, that in the second outburst it reached the southern confines of the great empire of Brazil, and that in its last, which has not yet ended, it has extended to the banks of La Plata, beyond which it has not been seen, so far as is known, up to the present date.

To the investigations of Dr. Milroy the scientific world owes the most succinct and at the same time most comprehensive account of all the successive epidemics of cholera since the year 1830, when the disease first made its appearance in Europe, and to his invaluable labours I would express my chief indebtedness for guidance in this compilation, which professes to deal simply with the epidemics of the disease in insular regions.

In the investigation of insular visitations of epidemic cholera, to arrive at the relation in which they have stood to the epidemics of the nearest mainland, it will be convenient to take them in the geographical order of the oceans or seas in which they are situated: East Indian Archipelago, Southern Indian Ocean, Mediterranean, Atlantic, West Indian, Australian, and Polynesian.

As Asia was the first home of the disease, so some of its islands in the Indian Ocean were the first to feel its influence, but two centuries elapsed after the earliest recorded instances of Java and Malacca, and the infection of the groups lying off the eastern coasts of that continent, and those lying nearer the African shore. In the Mediterranean the insular groups remained untouched for unequal periods after the spread of the disease along the northern and southern shores of the adjacent continents. In the Atlantic, the British Isles were very severely visited before any of the countries of Southern Europe, and through them the disease was transmitted to the North American continent very long before it fell on the smaller insular groups of the Atlantic Ocean, in some of which it is still unknown. The West Indian Islands have undergone a very irregular process of diffusion, which has for the most part depended on the pre-existence of the disease along the northern coast of the Gulf of Mexico, and its becoming from thence endemic in Cuba, with indisposition to spread eastward from it. The great West Indian epidemic of 1854 was introduced into Nevis and St. Thomas direct from England, spreading from these widely among the islands; and the limited epidemic at Guadaloupe in 1865-66 was introduced into it by a vessel or vessels from France. In the Atlantic, the Azores and Ascension and St. Helena, lying midway between the old and new continents, have escaped. Australia and Polynesia have remained intact hitherto; the disease not having extended to them either southward from Java, or eastward from the Philippines, or westward from America.

Cholera was an endemo-epidemic of the Malay peninsula and of the island of Java in 1629, when Bontius published his "De Medicina Indorum"; and it has been epidemic (according to Dr. John Macpherson) in Malacca in 1819, '21, '26, '40, and '64. These, apparently, have been eastward invasions from Lower Bengal through Burmah; and, from their having preceded the westward epidemic invasions from the same locality or region, they are of great historical importance. The European invasions were in 1827, '43, and '65: of which the first two, following continental routes, took several years to reach the western coast of Europe, from which they spread rapidly, by oceanic intercourse, to the American continent; the last, according to the views of the International Sanitary Congress of 1866, was a reflexion westward of a primarily eastward invasion, carried in January, 1865, from Java and Singapore to Southern Arabia, to Mecca in May, from thence to Egypt in June, thence to France in July, and from France to Guadaloupe in October; completing this grand circuit in ten months entirely by means of human intercourse along oceanic routes, thus setting at rest for ever the question of the paramount efficiency of that means in distributing Asiatic cholera.

Limiting our investigation strictly to islands, it may be said that very little is known authentically concerning the epidemics of the Asiatic Archipelago; but it would be very interesting to ascertain how far they have corresponded with, or followed after, those of the Malay peninsula.

Of Sumatra not much is known. It broke out there at Palembang in the year 1853; and extended from thence to Java and Borneo, and renewed there endemo-epidemic conditions that have since repeatedly displayed themselves over the Archipelago in epidemic form.

Java is said to have undergone severe epidemics in 1689, 1819, 1854, and 1864, and since then it has been endemic, bursting out occasionally in true epidemic type in the chief towns situated on the northern coast, but it is very rarely felt in the easternmost districts.

The island of Timor, which forms the last eastward link of the chain extending through Sumatra and Java, is reported to have remained exempt to a late date—1870.

The islands to the north-east of this grand chain are Borneo, Celebes, and the Moluccas, and north of these the Philippines. Dr. Van Leent, of the Dutch Navy, has lately furnished the most connected account of the epidemics that have visited the widely scattered Dutch possessions in the Archipelago. According to him there have been four great epidemics of the islands (the dates are not specified), the disease being endemic in many parts of Borneo and Celebes, in their southern provinces, together with intermittent fevers and dysentery in the season of the dry north-east monsoon. He states also that the Macassar province of Celebes was the seat of a severe epidemic in 1858-59, but as this date does not correspond with that of any reported in the Malay peninsula, or in Java, it would appear to have been allied to the general diffusion from Sumatra in 1853. The Philippines had severe epidemics in 1820 and 1842, generally attributed to infection from Siam, and again in 1864-65, most probably derived from Singapore.

Cholera was carried, in 1820, from Siam or Tonquin among the crew of a junk to Amoy, and an epidemic followed in the south of China, not infecting Macao Island, at the mouth of the Canton river, till 1823, which island appears to have suffered also in 1850, 1858, and 1865. Hong Kong Island was infected from Canton in 1858.

Japan is said to have suffered about 1818, but most probably this date is too early by three or four years. In 1854 it suffered most intensely in most of its cities, the disease having been imported, it is said, by the United States frigate *Mississippi*, after which endemo-epidemics showed themselves in Yokohama through a long succession of years at one season of the year.

There is no evidence that any of the eastward islands beyond Java were attacked before 1820, and their invasions have held no relation whatever to those lying towards Africa in the South Indian Ocean.

The islands of Eastern Africa are Madagascar, Nossi-bé,

off its northern end; the Comoros, lying between it and Africa; the Seychelles and Amirantes in the Northern, and Mauritius and Bourbon or Reunion in the Southern Indian Ocean. Of these the last two are sister islands, lying 120 miles apart. The ancient source of their epidemics was direct from India, Bourbon receiving its infection from Mauritius; but more recently each island is said to have imported the disease directly or indirectly from Africa. Both islands suffered in 1775, and 1819–20. In 1854 there was a severe epidemic in Mauritius, and a slight one in Bourbon, commencing about the same period of the year, neither being traced to importation; but non-contagious theories then prevailed, and may have influenced that decision. In 1856 Mauritius received the disease from Calcutta, and Bourbon, in strict quarantine with it, escaped entirely. In 1859, Bourbon, infected directly from Africa, underwent a devastating visitation of the negro population, being Africans; and the Mauritius had local epidemics later in the year, scattered in its country districts, commencing in a notoriously malarious district, and not traced from without. In 1861-62, Mauritius was again most severely scourged after an outbreak in the same district as in 1859; and in 1866 pernicious algide fever broke out in the same district, and becoming mixed up with typhoid remittent fever, these diseases became endemo-epidemic in the city and over the island, since which it was of annual recurrence until 1870.

In December, 1870, Port Louis was slightly infected from Madagascar, but Bourbon escaped.

Madagascar remained uninfected by the epidemics of Mauritius, although deaths had frequently occurred in the vessels proceeding to it from Mauritius for cattle and live stock during epidemic seasons. Quarantine was first enforced in it during the Mauritian epidemic of 1854. In 1859 and in 1870 the western shores of Madagascar were infected direct from Africa. On both these occasions Nossi-bé, a French insular possession off its north-western coast, was infected from Madagascar, the disease showing itself first in an Arab settlement.

Madagascar is notorious for pernicious intermittents on the deep alluvial soil of its eastern and western coasts. Cholera was unknown there until its introduction from Africa in 1859 and 1870, and there is no evidence of its having become endemic subsequent to those visitations. It affords strong evidence that, whatever may be the endemic correlation of cholera and pernicious algide fever elsewhere, it is absolutely necessary that the specific cause of cholera shall be introduced by human intercourse before the disease can be developed, even under the most favouring secondary causes; and that something more than an alluvial soil is required to render it endemic after the epidemic type has ceased. In Madagascar there is much marshy soil by the seashore, and paludal fevers arise near it at most seasons of the year, but more from November to May. These lands undergo less of seasonal submergence and desiccation than occurs in the deltas of the great Asiatic tropical rivers.

The Comoros lie midway between the north cape of Madagascar and the coast of Africa. There are four islands in the group, of which Mayotta, the south-eastern, is a French possession. Cholera was introduced into the group direct from Africa in 1859 and 1869. Quarantine was strictly observed in Mayotta, which escaped on both occasions. In the other islands under Arab government quarantine was less rigidly exacted, and often infringed. In 1859 the Grand Comoro island alone, and in 1869 it and Joanna, were infected.

The Seychelle and Amirante groups, lying far out at sea northward of Madagascar, are dependencies of Mauritius. They seem to have uniformly escaped the African epidemics. These islands are seated on a coral formation, which generally have a sandy soil and no alluvial strata, so that percolation is rapidly effected, and, from the absence of clay subsoil, there may be no lodgment of the surface-drainage. It would be interesting to know how far such a conformation is conducive to exemption. The Bahamas in the West Indies, also of coral formation, were visited severely in 1852, after introduction from New York, and the disease extended from island to island of the group by intercourse; so that in them coral formation afforded no protection from the consequences of direct intercourse.

(To be continued.)

SUGGESTIONS FOR A MORE SCIENTIFIC METHOD OF TREATING REDUCIBLE HERNIA.

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(Continued from p. 371.)

WHEN I stated that, scientifically, the truss remained the same antiquated instrument of a century ago, I did not mean to imply that no rules governed its construction. There are such, both for regulating the length and strength of the spring, and the size of the pad in relation to these; but they are known only in the trade, and are not available for the surgeon; nor would they be of much use to him if he knew them. Thus there are the following trade lengths of spring—the ½ circle, the ¾, and the complete. The ¾ is 4" longer than the ½, and the complete 3" shorter than the measured circumference. These lengths are generally known and acknowledged in the trade. What follows, in reference to the regulation of the strength of the spring, is known, I believe, only to the large manufacturers. The numerous others who make trusses, for the most part work only by the rule of thumb, and construct their instruments each according to his own fancy.*

Springs are guaged from No. 26 of the Birmingham wire guage, which is the weakest spring, up to No. 11, which is the strongest; these numbers indicating the thickness and, *cæteris paribus*, the strength of the spring. The terms very light S. and very strong S. represent the two extremes of the above scale: the former being of the thickness of No. 26, equivalent to ·018 of an inch; the latter No. 11, equivalent to ·125 or ⅛ of an inch. Between these two extremes are the light S., the medium S., and the strong S. The medium S. ranges in thickness from 19 = ·042 to 16 = ·065, according to its length; for the longer it is the weaker it becomes. In order, therefore, to balance the loss of power which it would sustain by its elongation, an increase of thickness is required. The rule for this increase is 1° of the guage for every 4" of length. Thus, if a patient should measure 30" the S. required would be, we will say, No. 19; if he measure 34", it would be No. 18; if 38", No. 17; and so on. Given, therefore, the kind of S. required, and the circumference of the patient's body, the manufacturer will send you an instrument of a given strength, so far as the thickness of the S. is concerned. It must, however, be obvious that as the strength diminishes with the length, and there is only an increase of thickness for every 4" of length, a medium S. for a patient 33" in circumference will be weaker than one of nominally the same strength for a patient who measures only 30". Thus springs of nominally the same strength are not really so; and, as regards the pressure they make on the truss-pad, this depends also on the temper of the steel, the set or curve of the S., the extent to which it is uncurved, and many other circumstances to which I need not at present allude. There are no terms to express the curve of the S., except those of close and open; and the French, English, and German curves are unknown to the majority of truss-makers. As regards the pad, its size is regulated by the length of the S. being made slightly larger for every 3" of additional length.

It will be seen then by the foregoing sketch what is the present condition of truss-making, as regards the manufacture of an instrument of a reliable and definite strength and form. There have been various improvements, or supposed improvements, made on the common truss; but they have been limited to the doing away of certain defects, or the supplying of certain deficiencies, rather than in giving precision to the details of its construction, or in endeavouring to discover the best models for each variety of hernia.

The only attempt of late years in this direction worthy of the name has been made by Professor Wood, of King's College, who has invented pads of a particular form proper to each kind of hernia, as well as certain supplementary springs, to increase or regulate the pressure of the pad. However ingenious his arguments and appliances, neither

* It must be understood that, except when otherwise stated, my remarks apply exclusively to the ordinary circular spring truss.

one nor the other have received the general assent of the profession, and his flat pad has been all but unanimously rejected by the trade. This may not be very encouraging to those who wish to pursue the same path; yet, after thinking the matter well over, it has seemed to me that a more systematic attempt might be attended with greater success, and would well repay the trouble.

The essential part of the truss is the pad; if this be not of the right shape and size, no spring or bandage, however great the pressure they may exert, will keep up a rupture.

I do not intend at present to speak of the construction of pads, or to discuss the relative merits of hard pads and soft ones; but shall assume that, for curative purposes, the general opinion is correct that the former are superior to the latter. My remarks then will be confined to the shape of the pad and its size.

There is such a general concurrence of opinion, among truss-makers and surgeons who have had the most to do with reducible hernia, that the ordinary truss is the best instrument for its retention, that it deserves inquiry on what this opinion is founded. And the answer is not far to seek: experience. It has been found by experience that no other instrument in general use so effectually controls some of the worst forms of hernia as the common truss: and it is justly argued that if a truss will keep back a bad hernia, *a fortiori* it must control a slight one; and it does so in a large proportion of cases. It is therefore the truss which suits the greatest number of individuals, and herein lies its superiority. If we examine how these results have been obtained, we shall find them to be due to the shape of the truss pad.

To many it has appeared that the pyriform shape of the pad, its inclination downwards, the convexity of its surface, and its large bulbous end were very unscientific, and many theoretical reasons have been advanced against this particular form—such, for instance, as the greatest pressure is made over the external abdominal ring, instead of over the internal; that it tends, by projecting into the former, to enlarge it, and thus increases the evil it was intended to remedy; yet by shortening the spring and so bringing the pad a little nearer to the iliac crest, the pressure may be made to bear on the internal ring and canal, while, if the pad be not too small, it has no tendency to enlarge the external ring. Oval pads would seem more in accordance with the anatomical requirements of an incomplete hernia; but try one of these in a complete hernia, or in a direct, and it will almost certainly fail, while the large pyriform pad of the common truss will command them. If now we compare the shape of this pad with that of the hernial sac of a complete external inguinal hernia, we shall find that they almost exactly correspond, and if we trace the course of such a rupture from the interior to the exterior of the abdomen we observe that as it descends it becomes larger, heavier, and more prominent in proportion as the number and thickness of its coverings diminish. To meet this increasing size, weight, and downward direction of the hernia, and the diminished resistance of the abdominal wall, the pad is made to increase in size, depth, and convexity from its proximal or spring end, to its distal or large end.

I have asked several instrument makers why the pad was made in this form; why its size and depth diminished and gradually tailed off towards the neck of the spring, but they could not tell me; neither could I get a reason for the opposite principles which prevailed in Wood's and L'Estrange's pads, either as regards the form of their skin surface, or the greater depth of their proximal or spring end. It would appear, then, that without knowing why, or being able to give a reason for it, instrument makers have discovered that the ordinary truss-pad is the best shape for keeping up the greatest number of ruptures, and the *raison d'être* not being understood, the same form has been used for almost every variety and stage of hernia. However useful such a pad may be for the million, and in the hands of those who have no knowledge of the anatomy of hernia, it does not follow that it is the best for a surgeon, and the fact of its being such a good instrument for the majority of ruptures proves that it cannot be the best for all. What modifications it ought to undergo to meet the requirements of the different varieties and stages of hernia, will form the subject of my next communication.

(To be continued.)

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

THE HOSPITAL FOR WOMEN, SOHO-SQUARE.

CASES OF OVARIOTOMY.

THE following is a continuation of the report of fifteen cases of ovariotomy performed at the above hospital during the year 1872. Of the four subjoined cases, three ended in perfect recovery; the remaining case was one of malignant disease of both ovaries, the patient dying on the fourth day after the operation.

CASE 8. *Multilocular cyst; perfect recovery.*—Emma F——, aged twenty-eight, single, was admitted under Dr. Meadows on August 7th. She noticed seven months ago that the abdomen was swollen, and during the last two months it has increased more rapidly in size. Catamenia always irregular, occurring only once in four or five months, or even at a longer interval.

Operation performed by Dr. Meadows on August 13th.—Nine pints of fluid were evacuated from the cyst, which was non-adherent. The pedicle was clamped and divided by the actual cautery; but, as bleeding occurred after this, the clamp was removed, and the pedicle transfixed and tied with stout whipcord, and then returned into the abdomen. The wound was closed by deep silk sutures, dressed with carbolic oil, and supported by broad strips of plaster, and a binder applied firmly over the abdomen.

On the third day there was a sanguineous discharge from the vagina; on the fifth day the sutures were removed, the wound having united. The patient suffered very little from sickness or pain, and was discharged quite cured on the twenty-seventh day after the operation.

CASE 9. *Multilocular cyst of each ovary; good recovery.*—Emma D——, aged twenty-seven, widow, no children, catamenia always regular, was admitted under Dr. Heywood Smith on Aug. 16th. The abdomen began to enlarge low down on the right side four years ago, and since then it gradually increased in size. On admission, the abdomen was enormously distended, the girth at the umbilicus being 46 in. There was resonance in both flanks, while the rest of the abdomen was dull and fluctuating.

Operation, by Dr. Heywood Smith, on Aug. 20th.—There was a large multilocular cyst of the right ovary, round which were plentiful but not very firm adhesions. The pedicle, which was thick and very short, was divided by the actual cautery. On examination, the left ovary was found to be the seat of multiple cystic disease. Its pedicle was transfixed, and tied with woven-silk ligature, and then the whole cyst cut away. Two portions of omentum were tied and removed. No ascitic fluid was found. The wound, which was 6 in. in length, was closed by silk sutures, and dressed with Lister's oiled silk and carbolised lac plaster. The quantity of fluid was thirty-two pints; the weight of the removed cyst 2½ lb.

The patient made a good recovery, and was discharged cured on the twenty-ninth day.

CASE 10. *Malignant disease of both ovaries; death on the fourth day.*—Sarah D——, aged forty, was admitted under Mr. Heath on August 21st. Has had five children, the last two years ago. Catamenia regular; profuse. Noticed an enlargement in the right side of the abdomen twelve months ago. Since Christmas has suffered from an aching pain in the lower abdomen and back, which is worse during the night-time.

On admission a somewhat irregularly shaped mass was felt rising out of the pelvis to about midway between the pubes and umbilicus, and spreading out on each side. It was very slightly movable, most so on the right side, giving the idea of two tumours in apposition. Besides, and distinct from this tumour, a quantity of fluid was detected. By vaginal examination, which was painful, the inlet of the

pelvis was felt to be occupied by a solid mass connected with the uterus, and not definable from it. The uterus was situated high up, and very slightly movable; a dirty yellow discharge exuded from the os.

While in the hospital the patient was constantly sick, and was daily losing flesh and strength.

Operation on August 31st by Mr. Heath.—On the peritoneum being opened a large quantity of ascitic fluid escaped. The peritoneum and intestines were found in a state of acute inflammation, rough, and injected. Two solid tumours were found, one on either side of the uterus, and each attached to it by a short, narrow pedicle. The pedicle on the right side was clamped and divided by the actual cautery. The cautery was also used for that on the left side, but before it was sufficiently charred it slipped through the clamp, and the bleeding was not stopped till it was transfixed and tied with whipcord. The pelvis having been well mopped out, the lips of the wound were brought together with silk sutures.

During the operation the patient sank into a state of collapse, but rallied again during the day. After the operation she suffered constantly from sickness, so that she had to be fed almost entirely by enemata; the pulse continued quick and feeble, and there was great exhaustion. On the fourth day after the operation the temperature rose to 105·0°, and the patient became delirious and sank. Half an hour after death the temperature was found to be 106·2° Fahr.

CASE 11. *Cyst of broad ligament involving the ovary; recovery.*—Mary C——, aged nineteen, single, menstruation regular, was admitted under Mr. Heath on September 18th. About two years ago she noticed a swelling of the abdomen on the left side, which gradually increased. Has had no pain in the left side. On admission the abdomen was found uniformly distended, measuring forty inches and a half at the level of the umbilicus. The whole abdomen was perfectly dull, and fluctuation was very distinct. Per vaginam the cervix was found looking forwards, the fundus in the hollow of the sacrum; no fluctuation could be obtained on abdominal palpation.

Operation, by Mr. Heath, on Sept. 21st. Contrary to expectation, no ascitic fluid was found. The cyst was found to have sprung from the right broad ligament, the right ovary and Fallopian tube being apparently uncomplicated, though spread out over the cyst. The fluid measured twenty-eight pints and a half, was quite free from albumen and cholesterine, and, in fact, appeared to be nothing but plain water. The cyst had a thin but rather broad pedicle, around which the clamp was applied, and the cyst severed by the actual cautery. A silk ligature was afterwards applied to stop one bleeding point. The cavity of the abdomen having been well sponged out, the wound was closed with silk sutures, dressed merely with dry lint and strips of plaster, and a binder applied.

On the fourth day after the operation the catamenia commenced, and ceased on the seventh, the flow being quite the same as that of an ordinary period. The sutures were removed on the seventh day, the wound having thoroughly united. The patient made a good recovery.

GUY'S HOSPITAL.

CLINICAL REMARKS ON THE RESINA COPAIBÆ AS A DIURETIC.

(By Dr. WILKS.)

DR. WILKS speaks with the greatest confidence of the value of the resin of copaiba as a diuretic. The ordinary copaiba has long been known for its action on the kidney, and is occasionally used in dropsy, but the nauseous taste of the oleo-resin has almost forbidden its employment. The oil separated from the resin is officinal, and is often prescribed in gonorrhœa instead of the compound substance. It is thought that the oil acts more especially on the mucous membranes, and is therefore useful in affections of the bronchial, vesical, and urethral surfaces. If this be so it is equally certain that the diuretic properties reside in the resin. Dr. Wilks has found it very difficult for patients to take the ordinary pharmacopœial drug, and almost impossible to get general practitioners to sanction its administration in private practice; he therefore has substituted for it the simple resin, and finds it equally or more efficacious. He gives fifteen or twenty grains in mucilage and flavoured water three or four times a day, and has had numerous cases showing its marked diuretic properties. There is now in Guy's Hospital a man who came in with ascites, and who, after taking numerous other remedies, was ordered the resin. The amount of urine was at once doubled in quantity, and now, after a few days, the fluid has almost disappeared. Dr. Wilks says he has lately had as a private patient a "drunkard builder," with cirrhosis of liver and enormous ascites, for whom he likewise prescribed the resin; a diuretic action was at once effected, and the dropsy quickly disappeared. In heart cases, also, he has given it with great success. Lately there was in the hospital a girl with mitral disease and considerable dropsy, who took the usual medicines without effect, and was then ordered the copaiba. It at once produced the desired result, and the fluid was dispersed. Dr. Wilks states that he has often given the remedy and failed; but, on the other hand, when it has succeeded the result has been more striking than that arising from any other diuretic he has seen. He would wish it were placed in the Pharmacopœia, as it is not kept by chemists, although he is informed that it is used largely by perfumers, and the resin thrown away in large quantities as a waste material.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

TUESDAY, MARCH 11TH, 1873.

DR. C. J. B. WILLIAMS, F.R.S., PRESIDENT, IN THE CHAIR.

THE PRESIDENT addressed the meeting on taking the chair for the first time.

ON THREE CASES OF A PECULIAR FORM OF MOLLUSCUM FIBROSUM IN CHILDREN.

BY JOHN MURRAY, M.D.,

ASSISTANT-PHYSICIAN AND JOINT LECTURER ON PATHOLOGY AT THE MIDDLESEX HOSPITAL, ASSISTANT-PHYSICIAN TO THE HOSPITAL FOR SICK CHILDREN.

THE author communicated detailed particulars of the condition of the patients. All three cases occurred in the same family. The eldest, a girl seven years of age, presented a variety of cutaneous growths on the face, ears, neck, fingers, and toes. Those on the face were of the nature of verruca plana; those on the ears of connective tissue and dermal hypertrophy; and, from their size and prominence on the margin of the helix, gave to the child a peculiar appearance. The affection on the neck assumed the form of crops of smooth warts, hard, pale, and with a glistening surface. The isolated cutaneous growths of the fingers were smooth warts, and few in number. The most remarkable phenomena, however, were the following: There were extensive connective-tissue growths, forming frequently distinct and circumscribed tumours, reaching to the size of an orange, on the face, scalp, trunk, and extremities; these growths were rapid in their increase, painless, deeply discoloured by extravasation of blood, and moderately soft and elastic. In bony situations there were occasional periosteal enlargements. The last phalanx of the fingers, with one exception, and several of the toes, were hypertrophied to from three to six times their natural size; the enlargement was due apparently to irregular connective-tissue increase and hypertrophy of the dermal structures. The nails were correspondingly increased, and marked by transverse furrows. The temperature, which occasionally became elevated for a few days, seemed to point to intermittent increase of the growths, for on one occasion at least the extensive formation of new growth over the back was coincident with a decided elevation of temperature lasting for some days. The tendency of the tumours on the scalp was to increase until ulceration of the skin and sloughing of the tumour ensued. The gums were greatly hypertrophied, covering up almost entirely the teeth; they were fungous and papillomatous in appearance, and grew rapidly again when cut away.

The disease was more or less symmetrical on both sides of the body. There was no glandular affection, and the

viscera were healthy. The child was deaf, but very intelligent.

The other two children, aged four and two years respectively, presented the enlarged gums and slight cutaneous affection, and the elder child had only recently exhibited an enlargement of the end of one of the fingers. This child presented also certain peculiar mental and moral phenomena, and gave little promise of speaking well.

The disease in all three cases had commenced a few months after birth. The eldest child of the family, a boy ten years old, presented none of the symptoms found in the others. The parents were first cousins, but healthy. There was no evidence of syphilis or scrofula in them or in their history. The children's grandmother was stated to have died of consumption, but with this exception the members of the family were long-lived and remarkably healthy. There was no similar affection to that of the patients in the parents or any of their relations. The three affected children were born in a wretched and damp dwelling, and exposed to bad hygienic conditions most of their life. The eldest and unaffected child resided with the rest of the family, but was during the early part of his life not subjected to the same unfavourable hygienic conditions as the patients. The whole family had, however, for the past year lived in a good habitation and otherwise comfortably, still the disease advanced in all the affected children. Several of the subcutaneous tumours had been removed, and exhibited microscopic characters allied to fibroma, with cartilaginous-looking structure in parts. Dr. Murray considered that the disease should be placed in the group of molluscum fibrosum. The enlargement of the gums and ends of the fingers, the deafness, mental and moral symptoms present in one or more of the cases, the symmetrical character of the affection, and particularly the occurrence of three cases in one family, were remarkable and in many respects unique features in the disease. He considered that the bad hygienic condition in which the patients had been placed may have acted as an exciting cause of the affection, but he thought the predisposing, if not the sole factor, to be the blood-relationship existing between the parents.

REPORT OF A CASE OF "MOLLUSCUM FIBROSUM" OR "FIBROMA," WITH OBSERVATIONS.

BY GEORGE POLLOCK, F.R.C.S.,
SURGEON TO ST. GEORGE'S HOSPITAL.

A woman aged thirty-three was admitted into St. George's Hospital with tumours of the skin, such as are known as "molluscum fibrosum," or "fibroma," and consisting apparently of excessive hypertrophy of the connective tissue. The patient had been the subject of these growths from childhood; they were small in their early condition, but had been slowly growing and increasing in number. The tumours occupy various positions; there are three large ones, and over one hundred smaller ones of various sizes, in different parts of the body; some as small as a split pea. One large one is attached to the back of the head, and is of the size of a small melon. Another occupies a space over the right shoulder, between it and the root of the neck. The most remarkable and the largest commences on the right side of the neck, by a pointed extremity, and is seen to extend below the umbilicus. Its attachment extends from the above point to the upper margin of the right mamma, and increases in breadth as it is traced from the neck to the breast. It consists of a long, thick, and broad pendulous flap of skin, about eighteen inches in length. Its anterior surface is thrown into several folds, which give it somewhat the appearance of coils of intestine. The general colour of the skin covering the larger tumours is darker than that of the rest of the body; its surface coarser and more rough, and pretty uniformly marked by obstructed orifices of sebaceous follicles. Sensation over the larger part of this large mass is impaired. A slight touch over the greater portion of the surface is not detected, but more severe handling is readily felt. In addition to these three large masses, various other tumours occupy the trunk; some solitary, some clustered; some with broad base, others pedunculated; one may be seen on the forehead almost flattened, while on the forearms are many suspicious spots of commencing future growths. One rather larger on the front part of the neck was partially removed, but has since increased in size.

When admitted the patient was in a very low state of health, and the removal of the portion alluded to was followed by a good deal of suppuration; but her health being greatly improved since then, removal of a large portion of the largest growth was proposed, and was much wished by the patient.

A microscopic examination by Dr. Whipham of the portion removed, as also of a second small tumour which was snipped off, gave the following results. The tumours were entirely covered by layers of epidermis and rete mucosum, resembling in every respect that of healthy skin. Immediately beneath and closely connected with the rete was a layer of wavy, well-defined fibrous, mixed with a small amount of yellow elastic tissue, which in many places exceeded in thickness that of the epidermis and rete together. Proceeding inwards, the fibrous tissue which constituted its bulk became split up into separate wavy bands, varying considerably in thickness; and between these bands was an abundant growth of small, round, or oval cells, which were closely aggregated in large groups, or arranged in lines between delicate strips of fibrous tissue. In the central parts of the tumour, fibrous tissue, mixed with yellow elastic tissue, abounded; the fibrous tissue was less dense and more wavy, was split up into more distinct bands, separated from one another by wider interspaces, which interspaces were either empty or occupied by the cell-growth above mentioned. The tumour was well supplied by blood-vessels. In the larger piece sebaceous and sweat glands were present; occasionally, though rarely, a hair was found, always presenting a healthy appearance. The growth was due to excessive hypertrophy of the connective tissue, and partly to abundant cell-growth occupying interspaces between the bands of fibrous tissue.

Virchow has published an engraving of a remarkable case of this disease, which represents numerous small growths over the whole body, and one very large one, which hung over the hip, and weighed some thirty-seven pounds. A somewhat similar case is to be found in the catalogue of Guy's Hospital museum, illustrated by wax models of the tumours of the body; and in this case there was also a tumour at the back of the head, and one hanging down from the nates some sixteen pounds in weight. This man died over eighty years of age. Another remarkable case is recorded in the Transactions of the Pathological Society, vol. xvi., in which the growth of the tumour occurred from the neck, and hung down below the umbilicus, very similar to the case of Mr. N. Hughes. There was also a large secondary tumour attached to the back part of the head and neck.

Dr. J. C. Warren has also described a peculiar case of skin tumour in his work on tumours. The tumour resembled a coil of intestine, and occupied the right side of the neck. It was removed, but returned in the course of some eighteen months.

It is worthy of remark that there is, to a certain extent, a correspondence in the position of the tumours in the cases alluded to. The trunk is most frequently the seat of the larger number of tumours, while the upper and lower limbs are often free. Little is to be said with respect to treatment; and, though there is a prospect of a recurrence after operation, it is proposed to remove the larger portion of the anterior flap, as the patient is anxious to be relieved from the inconvenience she suffers from it.

Dr. LANGDON DOWN said he was sorry Dr. Murray had not paid more attention to the physical peculiarities of the eldest boy's head. He was of a strumous diathesis, which was often associated with congenital imbecility. He had a history of convulsions during infancy, but showed no traces of imbecility. Dr. Murray thought the disease was due to the consanguinity of the parents and bad hygienic conditions; he would say rather to struma, of which there was a history on both the father's and mother's side. Some years ago he had attempted to show that the marriage of cousins was the great cause of neuroses, but as he went on with his paper he found from the statistics it was not so, for if the first cousins could be selected, we should have a healthy race.

The PRESIDENT, referring to Mr. Pollock's case, thought the proposed operation would be of advantage to the woman, but as the growth depended essentially on a blood disease, it was questionable if the benefit would be permanent.

Dr. A. P. STEWART said he had seen a somewhat similar case some years ago in a dressmaker who had undergone

great privation and much mental anxiety. There were a considerable number of tumours like those just described. A large pendulous mass had been removed from the hip. The tumour never returned, and the cicatrix was healthy. There was one large pendulous tumour on the right temple and a number of small ones scattered over the trunk and the back. After a time symptoms of phthisis appeared and rapidly increased, and she died. The lungs presented the ordinary appearances of phthisis. On examining the abdominal viscera, he found all the lacteals of the mesentery closed by a concrete yellow substance; the glands were enlarged, and full of the same material.

Mr. SPENCER WATSON said he had met with two somewhat similar cases to Mr. Pollock's, one in an old gentleman aged sixty-eight, the other in a young girl.

Dr. DUCKWORTH thought Dr. Murray's case was unique. He went a short time ago into Essex to trace out a similar case. There were many tumours on the legs, and one the size of an orange had been removed by Mr. Hutchinson. The cicatrix was healthy. The woman lived in a most wretched manner—bad food and bad hygienic conditions.

Dr. JOHN MURRAY said, in reply, that he had recognised the peculiarities in the insertion of the ears and the shape of the head of the eldest boy, but did not admit that the interpretation of them was correct. He thought that the evidence of a scrofulous origin rested on very slight grounds. The family had really been a very healthy one, the only exception being the death of the patient's grandmother, when young, of consumption. The children, brought up in poverty, were almost singularly free from the ordinary signs of scrofula. On the other hand, the arguments in favour of the consanguineous origin of the disease, as expressed in the mental and moral phenomena in one child and in deafness in another, were strong. Moreover, the symmetrical character of the affection was in favour of nervous origin.

Mr. POLLOCK agreed with the President as to the benefit the patient would derive from the operation. He questioned if the advantage would be permanent.

PATHOLOGICAL SOCIETY OF LONDON.

TUESDAY, MARCH 18TH, 1873.

SIR W. JENNER, BART., K.C.B., PRESIDENT, IN THE CHAIR.

THE PRESIDENT said that, according to the announcement at the last meeting, Dr. Wilson Fox would now open a discussion on the Anatomical Relations of Pulmonary Phthisis to Tubercle.

Dr. WILSON FOX.—In introducing this subject at the request of the Council, I will spend as little time as possible in preliminary observations. One would not willingly, however, enter such an arena without certain cause being shown, the first being in this case the desire of the Council that this discussion should take place. Personally I can offer no apology, except that I have done a certain amount of work at the subject. One other point on which I would ask for some indulgence is the comparatively superficial manner in which many important points are treated. As you said, Sir, the subject is illimitable, and my hope will be that the Society will hear from other gentlemen elucidation of points which time prevents me from considering. The last point on which I must appeal for indulgence is that I must pass by, without remark, the opinions of others. The debates on phthisis have extended through nearly two centuries, and to offer a balance of opinion between one author and another, the remainder of the session, as you remark, would hardly suffice. There are few opinions of the present day which are not held by various members of the Society, and those views can be far better represented by those gentlemen in the expression of their own views than by me. Therefore, Sir, as regards historical or controversial opinions I have no statements to offer. I have simply to bring forward some results of personal observation, which may, I hope, at least serve as the basis for discussion. On the history of the question, then, I shall merely have to say that which will, in my opinion, help to elucidate its present position. I have also for one moment to apologise for the special point we have to discuss to-night. For that I am responsible. When the secretary asked me to open this discussion, I felt at once that the main interest surrounded the question of phthisis, and that is an interest which will never cease in relation either to humanity or to the many controversial questions of the present day. The etiology, therapeutics, and prognosis of phthisis all hang upon this point—how far tubercle is concerned in the constant morbid anatomy of phthisis. I allude to this more particularly, because a most eminent German writer, Prof. Niemeyer, has stated that every question connected with tubercle bearing on the etiology and prognosis of phthisis must be given up on account of the very small part which tubercle bears to phthisis proper. A large part of phthisis has nothing to do with tubercle; tubercle is superadded to phthisis, but it constitutes an almost fatal complication of the disease. I am not quoting Prof. Niemeyer's words, but those are the practical conclusions from some of his most important statements. On the question whether there are clinical varieties of phthisis I am not going now to enter. For my own part, I believe most may be traced to the variations of development of, and subsequent changes in, certain bodies in the lung, to which, up to the time of Virchow, the name of tubercle was almost universally given.

Regarding, then, the history of the question, I would only state that, commencing with the definitions of Hippocrates, that phthisis was ulceration of the lung, through the greater part of the seventeenth century there was a gradual recognition that bodies which the authors of those days called tubercles, and designated alternately or simultaneously by the names of "Scirrhosa" and "Caseosa," or "indurated" and "caseous," formed the anatomical basis and essential constituent feature of phthisis. Chronologically, it is impossible to trace this question accurately, for the opinions of different writers merged into one another during the greater part of this century.

During the greater part of the eighteenth century the discussion ranged further on a recognition of the similarity of those changes to what takes place in scrofulous glands, and the main debate was whether these tubercles, as they still continued to be called, were lymphatic glands allied to scrofula or were anything else. In the present day this aspect of the discussion has very little altered from that of two centuries ago. That discussion was continued to the time of Portal, who supported the same opinion; but with the early part of the present century began another phase in the history of the discussion, when Bayle regarded what he still termed tubercle as a product *sui generis*, and the result of a special dyscrasia. Even before him arose a controversy regarding the possible inflammatory nature of the growth, and that of the present century has mainly been between the theories of a special dyscrasia, or inflammatory changes. The theory of scrofula was maintained in part during this period by eminent foreign and English writers, but whether this was maintained or not, the question of tubercle being an inflammatory product or the result of a special dyscrasia, a deposit from the blood in a morbid state, was the main controversy in the whole history of medicine. Into this controversy, each side of which has been maintained with great ability, I cannot now go; but a fact to which for a moment I would call the attention of the Society is that whatever theory was held concerning the origin of these growths, deposits, masses, whether grey, yellow, hard, or soft, they were always called "tubercles."

The history of what is now called tubercular infiltration, speaking not very accurately, but within chronological limits, was practically begun by Bayle. He described grey and yellow uniform infiltrations of a large tract of lung, with somewhat amorphous-looking material, and pronounced it to be tubercle, and it was continued to be thus described in the same terms to the time of Laennec, who may be said to have solidified the previous floating ideas of tubercle, which had before received the stamp of homogeneity by Bayle, with the one exception of the grey granulation.

What Laennec and Bayle considered to be a grey infiltration of tubercle, analogous to the grey granulation, has since been usually considered to be pneumonic, but the yellow still continued to be called tubercular, and the yellow infiltration or yellow masses in the lung were finally taken to be the type of tubercle, until what Bayle had doubted to be tubercle, the grey granulation, was asserted to be tubercle by Laennec and Louis, because it became yellow. The occurrence of this transformation was considered to be the test of tubercle. Whatever became yellow, caseous, dry, and friable, was considered to be the most typical form

of tubercle, and, with the exception of Dr. Addison—into whose views, with the most profound respect, I shall not here enter, partly because there are many here better qualified than I to do so, and partly because of the limits I have already laid down not to enter into particular views—with that exception, yellow tubercle was regarded as the most characteristic form until the time of Virchow.

With Virchow began the main variation which the discussion has undergone in our day. He announced that yellow caseous matter might arise from the degeneration and inspissation of many other products—pus, cancer, and other matters; and he therefore pronounced that caseous matter was not the type of tubercle. Seeking for another definition of tubercle, he considered the typical form to be the grey granulation of Bayle—the granulation which Bayle himself for the moment doubted to be tubercle at all. This definition was to a certain extent a new one. It excluded a large amount of what had previously been called tubercle. He also expressed his belief that a large part of what was termed infiltrated tubercle was, in fact, inflammatory; that these infiltrations and caseous matters, when not assuming the form of grey granulation, were a "lobular caseous pneumonia," or "scrofulous pneumonia," and that they arose from the inspissation of inflammatory products.

There is no one here, Sir, who has a more profound respect for Prof. Virchow's views and labours than I have. A large amount of the work of my professional life has been due to the desire to follow out some of his teachings in this respect, and if I have on some points arrived at different conclusions, they are chiefly these—viz., that in the large proportion of cases where caseous matter arises in the course of phthisis, its origin is not due solely to the inspissation of inflammatory exudations or products, but to the destruction of vessels by a new growth; and that again the typical isolated grey granulation is not the sole form in which tubercle appears in the lung.

In Germany those views, coming with the authority of such a teacher as Professor Virchow, have obtained large acceptance, and in this country they have been accepted to a large extent. They find their latest culmination in the text-book of Professor Niemeyer, which I specially allude to because it is generally known in this country. The logical deduction from Niemeyer's teaching appears to me to be that phthisis, as a disease, has nothing whatever to do with tubercle. The destructive changes in the lung are the result of the inspissation of inflammatory products, caseous changes in pneumonia, and that tubercle when found in the lung is merely an accidental product; and is to be regarded according to a second theory, which we also owe to Germany, to Professor Buhl, and which has found many supporters, as the result of infection. The question is thus absolutely changed, inverted from the old doctrine, and tubercle is an accidental complication of phthisis, and in no respect its primary and chief anatomical distinction. I think I am not guilty of any exaggeration when I say that that is the logical deduction from Professor Niemeyer's views.

Fifteen years ago I came back from Germany strongly impressed with the opinion that phthisis might be divided into many absolutely diverse diseases, and with a certain ambition, such as a young man may entertain, to aid in working out their definitions from a clinical point of view. I had many terms at the end of my tongue—broncho-pneumonia, caseous pneumonia, and scrofulous pneumonia—which sometimes young men use more freely than their teachers. Coming to the work of teaching myself, I long felt great hesitation in speaking of tubercle in a practical point of view, and found great difficulty when face to face with the changes in the lung, in saying what was not, and still more what was, tubercle. I believe that many others in the same manner can speak of caseous changes and lobular pneumonias, but find it difficult, when brought face to face with the lung, to say what the particular change is. Before setting to work at the clinical aspect of these cases, I found it, therefore, necessary to deal with the anatomical question which they involved, and I have to thank my colleagues for giving me large opportunities of examining lungs in the post-mortem room. I found it necessary, after noting the appearances in the lung, to have a good drawing made of them (and for these I have to thank Mr. Tuson), and to make microscopic observations on what the drawings showed. The results of these I have tabulated. I had then to go over the ground again, for I found the same appearances crossing one another in every possible manner, and a large number of them in the lung not corresponding to what I had imagined to be the type of the typical grey granulation. I decided therefore to take the lung in the general disease, universally recognised as tubercle—acute tuberculosis,—and see what changes accompany the disease in which grey granulations occur in every part of the body, and what they really produce in the lung. I have to thank my friend Dr. Gee, and my lamented colleague and friend, the late Dr. Hillier, through whose kindness I was able to obtain from the Children's Hospital many lungs from cases of generalised tuberculosis.

It was necessary to take either an arbitrary tubercle, or arbitrary idea of tubercle, as derived from section in serous membranes, or take all the appearances of the disease, and see wherein they differed from other diseases, or wherein they corresponded, and whether any general definition could be found; and the results of those observations I wished to apply to cases of phthisis. As the result of my inquiry I found in the lungs of patients dying of phthisis changes almost identical with those in the lungs of children dying of acute tuberculosis, with such variations of anatomical change as can, I think, be pretty clearly traceable to lapse of time.

The following are the chief appearances which I found in the lungs of children dying of acute tuberculosis:—The semi-transparent granulation of Bayle; white granulations, neither absolutely semi-transparent nor absolutely opaque, but still presenting a certain degree of firmness; granulations like the semi-transparent granulation of Bayle—firm granulations, but more or less caseous in the centre; yellow soft granulations, somewhat prominent, easily crushed, but not easily removed from the pulmonary tissue, varying in size from that of a poppy-seed to a mustard-seed, or still more rarely to that of a split-pea; distinct caseous granulations, dry, opaque, friable, sometimes with, sometimes without a semi-transparent zone of induration surrounding them; groups of granulations, semi-transparent or opaque, two, three, or more in number, reaching the size of a split-pea or bean; indurated pigmented granulations, surrounded by a zone of pigment; and lastly, tracts of indefinite extent, one, two, or more inches in diameter, irregular in outline, prominent above the cut surface, granular on section, which pass sometimes insensibly into the so-called grey infiltration; cavities, from infinitesimal specks to the size of hazel-nuts or more; sometimes granulations softening into cavities, either the softer, the white or the yellow. The semi-transparent granulation, *per se*, as far as I have seen, is not found softening into a cavity without some intermediate change. Tracts of grey semi-transparent gelatinous appearance, what we know as either the grey pneumonia, or gelatinous pneumonia, or gelatinous grey infiltration, or gelatinous infiltration of Laennec, and red pneumonia, bronchitis, injection, punctiform extravasation, and dilatation of bronchi, and some other appearances which have at this moment very little to do with the subject I have to bring forward. The point on which I wish specially to insist is that these things are very seldom found alone, that the grey semi-transparent granulation of Bayle is sometimes found isolated, scattered thickly through a whole lung, but that is the rarer appearance of the two. As far as my experience has gone, you most frequently find combinations of these. Many granulations are larger than that little pin's-head semi-transparent point—are more opaque and more friable. In the lungs of eleven cases in which I have taken minute and accurate notes, they either co-exist with the caseous or with the white and soft and caseous, or the soft and caseous alone.

The point on which I wish to insist is, that the grey granulation of Bayle, the typical tubercle of Virchow, does not exist alone in the majority of cases of acute tuberculosis of the lung in children, but that it is almost always found with other forms of change, which in a large proportion of cases so predominate, that the grey granulation is the rarer appearance, and is even difficult to find. In this I think I shall be borne out by anyone who has minutely examined with the microscope. The grey granulation of Bayle in such lungs is not only difficult to find with the naked eye, but even to find typically under the microscope. What appear to be grey granulations are peri-arterial or peri-bronchial thickenings, and exist in the septa, but in the lung-tissue the typical grey granulation is comparatively a rare product.

By the word grey granulation I allude to (as represented in the diagram) a body comprised of minute cells, about the size of a white blood-corpuscle, or smaller, with nuclei smaller than a red blood-corpuscle, in older forms separated by a delicate reticulated network. In many of these diagrams the reticulation has been exaggerated by the artist. The reticulum is found by high powers of the microscope in most forms of tubercle except in the most recent granulations, in which these nuclei and small cells crowd upon one another, and no reticulum can be seen. I must apologise for not now going more fully into the structure of typical tubercle; it would involve too long a discussion beyond the points I have dwelt on, and would occupy more than the time that remains at my disposal. A body isolated and composed of small cells massed together, generally separated more or less by reticulum, or only not separated by reticulum because so densely massed, may be taken for the moment as the typical structure of tuberculosis, with certain exceptions, on which I shall have presently to dwell. There are often much larger cells, and sometimes, though these are comparatively rare in the lung, very large cells, $\frac{1}{100}$ to $\frac{1}{300}$ of an inch in diameter, with many nuclei—the Riesenzellen of Virchow. I have placed under the microscope one or two of them. I have never been able to isolate those cells. They have been described by Koster and Schuppel. I have never seen them isolated. They are as large as the myeloplasts of a myeloplastic tumour. Virchow described them in the omentum. I have frequently torn up preparations of tubercle from the omentum to seek for them, but have never succeeded in isolating them. Whether groups of nuclei, surrounded by protoplasm, or real cells, I cannot say. Between these and the typical small cells are various other forms of large cells which I have not represented in the diagram. Those characteristic of tubercle in the lung, as I take it, are these small cells, most of them the size of the smaller cells of lymphatic glands, commonly smaller than the white blood-corpuscle with a nucleus, sometimes nearly filling up the cell; or, what is more common, dense masses of apparent nuclei, whether in a reticulum or not, which may be best described in the terms of Dr. Lionel Beale, as a formed material produced by the protoplasm of these cells indurating in its external margin till finally what we used to call the cell-wall blends with the reticulum, so that when broken up only nuclei can be isolated.

The grey granulation, I said, was hardly ever found in the alveolar structure of the lung; what appear to be grey granulations there, being growths of tubercle in the perivascular sheath, or peri-bronchial sheath, or inter-alveolar tissue. In the alveolar tissue this typical growth becomes mixed with other products. I do not say you never find among the alveoli these rounded bodies; you do find them, tending to assume a rounded form; only, most commonly, in their centre and in various parts, you meet with, more or less, the appearance of epithelial cells, large cells which correspond to those of the interior of the alveoli; and I believe that they are the result of epithelial proliferation. I do not wish to dogmatise for a moment upon the word epithelial. Whether there be epithelium in the lungs or not, I believe the cells I allude to are the result of the proliferation of cells in the interior of the air-cells, which assume a larger form, give rise to a rapid development of nuclei, and die. But together with them, but in the walls of the vesicles, you find, in large tracts, the same reticular growth, and multiplication of nuclei and small cells, identical in appearance with those of the most typical grey granulation. The proportion between the epithelial cells and the denser nucleated growths varies in nearly every specimen of granulation that you can find in the lung in acute tuberculosis. That, and not the typical grey granulation of the peritoneum, is the most common appearance in the lungs in acute tuberculosis in children. A large number of the granulations that appear yellow owe their origin to two sets of changes. In many of them the change is an acute caseous change. Nothing is to be seen but round yellow caseous spots, surrounded by more or less fibrillated material of inter-alveolar septa or inter-lobular septa surrounding the caseated interior of the alveoli.

The next most common change is to find the air-vesicles filled with cells, but the vesicles themselves separated more or less widely by a growth passing between them. Lastly, you find intermediate stages between that and another condition, in which the interor of the air-vesicles is occupied by a caseous material, and the wall at the margin of these spots of infiltration is occupied by a similar infiltrating growth.

Lastly, in those large tracts of caseous infiltration you meet with one of two things. I am merely stating my own opinion. You meet either with large tracts entirely occupied by the two appearances last described, or with another set of changes—universal thickening of the walls of the alveoli until the interior of the alveoli is almost obliterated. You may find that change where the caseous material blends into the tracts of grey infiltration. That thickening is produced by a small-celled or nucleated growth similar in character to that occurring in the softer form. You find, besides, little infiltrations of small-celled growths into the sheaths of the arteries and bronchi, and also similar ones around the bronchioles—those terminating in the alveolar tissue, and these may be termed peri-bronchial tubercles.

Everything I have now described occurs in acute tuberculosis, and I would also state that the infiltrations, when traced in an injected specimen, are found to occur in an almost similar manner in those occupying large tracts to what is observed in the granulations, and they gradually occlude the bloodvessels. In the network of bloodvessels larger masses of nuclei may sometimes be found, but by their growth the bloodvessels become obliterated; and I am inclined to think that—to correct my former statement—the reticulum in the lung is partly formed of débris of the pulmonary capillaries, from the nuclei of which the growths may also arise. It is a hypothetical question, having little bearing on the subject I am discussing. The point on which I would insist is, that in their progress of fine-celled growth, vessels almost invariably disappear.

I would venture to describe, as presenting similar characters, different appearances in the lung of acute tuberculosis, excluding for the moment pneumonic infiltrations. I have described a growth in the wall of alveoli, the interior of which is occupied by all products differing but little from those of ordinary pneumonia, producing extensive thickening of the alveolar wall. According to my observation, Sir, these and the grey granulation have all the same structure. I venture, therefore, to affirm that the grey granulation is not the all-essential typical distinguishing feature of tubercular formation in the lung, for in the most typical acute tuberculosis you have the same kind of growth occurring in larger areas. If one of these changes I have described is a pneumonia or scrofulous pneumonia, or caseous infiltration, you must have in acute tuberculosis two diseases which start from a growth the same to all microscopic appearance, one of which is hitherto unnamed, or you have one disease which may appear in two forms, the grey granulation and the wider infiltration. I dwell on this because it is one of the questions constituting a great part of the difficulty about phthisis. If tubercle is only grey granulation, tubercle in phthisis is not only comparatively rare, but its demonstrable share in any destruction of the lung is small. If tubercle be an infiltrating growth, destroying capillaries, passing into caseous change, the part tubercle takes in phthisis is large.

I wish to say one word about caseous change. You will find large tracts completely caseous, and presenting appearances which I have called tubercular pneumonia, a term, in my own opinion, meaning pneumonia complicated with a growth analogous to that existing in these granulations in acute tuberculosis. Wherever you have this growth thickening the wall of the air-vesicle in injected specimens the capillary circulation is found to cease, and even in non-injected specimens it is easy to see that there are no capillaries there, and that this growth is occupying the place of the capillaries. In this respect, as the figures before you show, it is contra-distinguished from specimens of acute pneumonia. In acute pneumonia the capillaries are still there, and the growth in the wall of the air-vesicle is not there, as far as I have been able to observe, in a considerable number of specimens.

At this point I must become, for a moment, hypothetical. The death of the part is due, as I believe, to the destruction of capillaries, which may take place slowly in one case, or acutely in another. In one case you have a growth capable of a further development, concerning which I shall have to say a few words in a moment—a fibre change. In the other case you have simply a complete destruction de-

pending on the acuteness of the process. As a question of pathology, new formations of rapid growth under abnormal circumstances of irritation have a short life in proportion to the intensity of the irritation present. I believe that that explanation of the acuteness of the inflammatory process with which this inflammatory growth concurs—I will not say originates, because that would be begging the question,—largely determines the rapidity of the caseous change, of a growth which would proceed to an infiltration, producing thickening of the wall, if it had sufficient vitality, but which dies on the first destruction of the capillary circulation if the irritation is acute. To recapitulate: the distinctive and vital characteristics of the growth are in two directions—in the possibility of development, and, in the other, of death. Development may take place because we know that minute capillary circulation is not necessary to permanent tissue, as is seen in cartilage and in large tracts of fibro-cartilage and fibre-tissue. You may have a considerable development of the lower form of fibrous tissue without the intervention of any discoverable capillarity, except from a distance. Accordingly, the fibre change may take place in contradistinction to the destructive change; and in young children where the process has become more or less chronic in one lung, whilst it is still acute in the other, you see bands shooting in, almost like what is seen in cases of periosteal ossification. Around all tubercles as they advance in age a more or less fibrous capsule forms, and from this bands tend to traverse them in all directions; and even where in early childhood the process of tuberculisation has been more or less acute you see those bands passing into the tubercle. I need not dwell on the proof that these grey granulations pass into fibre change: there is nothing new in this. That tubercle can indurate, become obsolescent, become hard without becoming caseous, has been known from almost the earliest ages of pathology. It is only difficult to explain the relation of this to phthisis.

The point which I wish to lay before the Society is, that all these changes—caseous infiltration, large pneumonic product, mingling of pneumonic products with reticular growth, induration of the reticular growth, infiltration of that reticular growth throughout large parts of lung, which then acquire a more or less caseous appearance—all concur in the most typical forms of acute tuberculosis. In some cases that infiltration, when it occurs in previously emphysematous tissue, gives to the tissue a peculiar worm-eaten appearance—an almost exact repetition of one specimen before me.

Now, Sir, I will dwell briefly on two or three propositions which I venture to lay down as corollaries to these points. Under what condition do we meet with tubercle of the lung in phthisis, especially in relation to the question of inflammation? Speaking in the abstract, as I stated in the proposition laid on the table, tubercle may occur without inflammation in the elements of the tissue in which it is developed. We must admit that in the liver and kidney in certain blood states you may have a development of tubercular growth as part of the signs of the general acute disease or constitutional affection, in which we find no inflammation of the part in which it occurs. Secondly, I also stated that tubercle is found in addition to inflammation of the tissue in which it occurs. In many cases of acute tuberculosis the evidence is very strong that you may have inflammation of serous membranes (pericardium, pleura, and meninges), in which, at any rate, no naked-eye tubercle can be discovered. Without dwelling on statistics, there is a fair percentage of instances recorded by Empis and Colin and others. In these cases I think it is fair to believe that the inflammation precedes the tuberculosis. At a later period, wherever you find inflammation you commonly find granulations added. In the intestine you may find intense congestion and hyperæmia proceeding to ecchymosis, but no tubercle, that ecchymosis and hyperæmia sometimes surrounding Peyer's patches and the solitary follicles. I have been induced to regard this as a preceding inflammatory process, antecedent to the formation of secondary tubercle. Of all things you find most commonly and constantly the two, inflammation and tubercle, mixed together; at any rate, in the mucous surfaces and serous membranes that combination is almost constant. The question is, what part each plays in the lung, and can we distinguish the one from the other? Again, Sir, in the lung, as far as we know at present, the implication of the alveolar wall is the most constant and typical character. I would for a moment beg to exclude a certain number of diseases which I have already recapitulated, ulcerative bronchiectasis, indurated pneumonia, ulceration after pneumonia, disease of the lung from inhalation of dust, cancer, and syphilis. With these exceptions, I have only in my life found three cases of phthisis which did not present the grey granulation or the soft granulation which I have described, or such caseous change or infiltration, in greater or less combination. I may appeal, Sir, to my unbiased opinion, because it was my anxious wish to do something in my day and generation to distinguish a great many varieties of phthisis, and it was only after long search and inquiry I came to this conclusion.

Sir, I have not yet given anything like a definition of tubercle, nor am I going to give a dialectical definition, but as far as we know of tubercle at present, especially if I may allude to the researches of my friend, Dr. Sanderson, it may be regarded as a lymphatic overgrowth produced by irritation. We do not know at present its relation to the walls of the air-vesicles. Buhl has lately stated that the lining membrane has its analogue in the endothelium of the lymphatic sheath. On that point it would be difficult to give an absolute opinion; certainly lymphatics have been traced in sufficient number in the walls of the air-vesicles to allow us to believe that lymphatic tissue must play an important part in the changes of the lung. Perhaps this wall is one of the richest lymphatic plexuses in the body, but that is not positively proved. At any rate we do find tubercle most commonly in the lung, and when you give rise to irritation, in cases where the lymphatic irritability is excessive, under those circumstances you may get tubercle. You may therefore get it from a blood-state in which that relation to lymphatic change is abnormal, or you may get it locally by exciting inflammation. As to the last question, the subject debated by Laennec and Louis, whether tubercle gives rise to inflammation—it is as difficult to answer as the first two. One can give some answer from recent observation. I have said that it arises from lymphatic tissue; the other theory, by exudation and deposit, I take for granted has, for the moment, been abandoned. So far as my own observation goes, I believe that caseous change is the result of this growth. That it originates from white corpuscles I doubt; certainly on the other hand no proof has been given. All this has some bearing on the question of phthisis proper, apart from tuberculosis.

To sum up, I would say that the causes of inflammation may be simultaneous with the causes of tubercle. Inflammation and tubercle may be set up and arise, *pari passu*, in a lung; or inflammation once set up may give rise in its extension to a secondary growth in the alveolar wall, and that secondary growth is the cause of ulceration.

These characters of tubercle, as I have described them, are distinctive, but they cannot be called specific, and even for the purposes of distinction they require to be taken collectively. It would be difficult if not impracticable, even with the microscope, to distinguish in all cases tubercle from certain growths which resemble it, as those of leukhæmia, typhoid, glanders, and even some forms of inflammation. Time will not permit me to discuss the resemblances to the former. Cases where any close similarity exists between simple inflammation and tubercle are, however, rare, and even then it is rather a superficial resemblance than an identity of structure. The dense massing of tracts, with cells, and nuclei with an interposed reticulum seen in tubercle, is seldom found in ordinary inflammation of other parts. The boundary line, as has been remarked, between tubercle and inflammation cannot be accurately defined. Tubercle is the result of irritation of a particular set of tissues under certain circumstances, and we must therefore expect to find, and I believe do find, formations which resemble it, arising under other similar but yet really diverse conditions of origin.

I have limited myself very much to the question of acute tuberculosis. Coming to phthisis, in my opinion, subject to the criticisms of the Society, it may be divided mainly into two forms which merge insensibly into one another—the acute and the chronic. The acute forms are multiple, but are mainly characterised by yellow granulations, grey and opaque granulations, and grey infiltration, in which caseous spots exist. Regarding what is termed scrofulous

pneumonia, I would put the matter briefly thus. There are large caseous infiltrations in what is termed caseous pneumonia. When they exist in large tracts, immediate death of the contents of the air-vesicle takes place, and generally death of the wall at the same time. The caseous change most commonly occurs in isolated spots in the grey infiltration, dotted through it, the size of pins'-heads or larger, distinct and circumscribed from the surrounding grey infiltration; and on this, Sir, I bestowed an amount of time which I will not inflict on you. I will only summarise my conclusions briefly, by saying that they are almost all identical with two of the drawings before you. In all these caseous spots is a new growth in the wall of the air-vesicle of a nuclear reticular structure, which I have never been able, with any microscope I could use, to distinguish from the infiltration and nuclear growth that occurs in the softer granulations of acute tuberculosis. That the caseous change which occurs in the middle of the grey infiltration arises from any mere inspissation of pus or accumulation in the interior of the air-vesicle, I would distinctly deny. It is absolutely different from any accumulation of puriform matter that takes place in lobular pneumonia or in simple pneumonia. This drawing by Sir Robert Carswell shows clearly the distinction between lobular pneumonia and those caseous spots which occur in acute tuberculosis. The part dies because the circulation in its wall is cut off by the new growth, and the death is acute in proportion to the acuteness of the inflammatory process surrounding it or accompanying it. If the grey infiltration sets up around old tubercles, in a large number of cases they die at once, and yield those caseous matters; but in other cases the growth takes place simultaneously with the infiltration, and caseous spots form in proportion as the infiltration goes on.

It is only where little growths take place in the middle of an infiltration that these spots occur. To say that they are mere inspissation is a fallacy, and leads to the second, and, in my opinion, fallacious theory, that caseous change takes place from an inspissation of catarrhal pneumonia, and that is the origin of tuberculosis. In the form which it has become the habit of the present day to call scrofulous pneumonia, the process is identical, step by step, with the majority of the processes which occur in acute tuberculosis.

Chronic phthisis, as distinguished from the acute, presents the characteristic of induration of the lung, and its chronicity depends upon the slow induration of these growths, rather than upon their acute destruction. The change by which tubercle becomes obsolescent may affect the infiltrated tubercle—if I have already established that there is such a thing as tubercle extending over a non-circumscribed area, — as well as it may affect an isolated granulation; and it also affects groups of granulations. In the groups of granulation you get tracts of tissue which are more like sections of fibro-cartilage than anything which can be called tubercle, and you can trace the progress by stages of gradual induration through any amount of fibre-growth into the most intense tracts of fibroid induration. These processes of induration have been called lately by some German pathologists, peri-bronchitis, peri-arteritis, and indurating peri-alveoitis. I would venture to say they are not peri-bronchitis in the sense that they affect large bronchi; but they affect bronchioles, and commence with a growth identical in character with that which I have described. Whether peri-bronchitis or not, it does not alter the main character — it is a peri-bronchitis; or, as Virchow has termed it, a peri-bronchitic tuberculosa. In that sense I would venture to say that in every indurated form of phthisis—and those I have classed in the table as chronic phthisis come under that category—the indurating tubercles are mixed up with forms of alveolar type. One word about the origin of all this. I have already spoken of the origin of phthisis in pneumonia, and I shall say no more on that point. We have lately had some dogmatic assertions as to the origin of phthisis from pneumonia and scrofulous pneumonia—assertions so dogmatic that one is surprised that more of it is not seen. It is rather rare to see commencing disease of the lung that terminates in phthisis. We only see certain forms of induration at the apex. I have seen two such cases, and in both there was grey pneumonia with soft granulations. The argument from later stages—and that is the only one possible for us, as I would specially insist, as giving a harmony lately broken to the idea of phthisis—is that of a similar growth antecedent to the destructive change, whether in granulations or in infiltration. Finally, I must apologise to the Society for the amount of its time which I have taken.

The PRESIDENT suggested the adjournment of the discussion to the next meeting, and said the Council would be obliged if gentlemen proposing to speak on the subject at the next meeting would give their names to the Secretary, and at the same time give him some idea of the amount of time which they desire the Society should give up to them.

Reviews and Notices of Books.

Researches on the Action and Sounds of the Heart. By GEORGE PATON, M.D. pp. 64. London: J. & A. Churchill. 1873.

FEW matters depending upon direct observation, or, perhaps we ought to say, upon the interpretation of auditory and visual impressions, have led to such differences of opinion as the actions and sounds of the heart. Physiologists have even been accused of mistaking the systole for the diastole; whilst the varieties of opinion in regard to the causes of the sound have been as extreme as, we might say, existed between those who, listening to an orchestra, should maintain the entire volume of sound to be produced by the vibration of one string of the basses, and those who should attribute it to the simultaneous action of every note of every instrument. Dr. Paton is by no means orthodox in his views; but he has done what many others neglect to do—listened and observed for himself, and is therefore fully entitled to be heard.

Dr. Paton describes more clearly and, we think, more correctly than has hitherto been done, the variation in the phenomena presented, according to whether the heart is acting slowly, with moderate vigour, or very energetically. In the former case the ventricles become fairly filled during the first stage of the diastole, and only completely distended by the comparatively feeble and late contraction of the auricles. In the second case the auricles act sooner and more vigorously, but the ventricles have still received a moderate supply of blood during the first stage of the diastole. In the last case there is no first and second stage of diastole, but the auricles are promptly filled and promptly discharge their contents into the ventricles; the contraction of the auricles is, in fact, synchronous with the diastole of the ventricles, and *vice versâ*. Dr. Paton has not, however, we think, been happy in his phraseology, where he says (p. 19) that the auricles exert a force which converts the movement of relaxation into one of *active dilatation*, "because the power with which they contract may not only excite the dilatation, but impart a stimulus to the relaxing parietes of the ventricles which renders the diastole the first and most prominent movement, and the systole its sequence." We think Dr. Paton would have done better to have employed the term forcible dilatation rather than active dilatation, which, indeed, he does not really mean The term active dilatation expresses the phenomenon presented by an ordinary elastic ball after it has been compressed and a considerable suction power is exerted, but here the walls of the ventricular sac are only forcibly separated by the propulsion of the contents of the auricles.

Again, we think the following statement very doubtful, and, even if it be correct, we think better language might have been selected. Dr. Paton says (p. 31) that in the heart of a turtle exposed, and beating thirty-two times per minute, it was observed that as the auricle projected the blood into the ventricle it swelled out, and dilated till it attained the point of distension; it then immediately *contracted*, its parietes *expanding* with considerable force, resisting the pressure of the fingers applied to them. Ac-

cording to this, the cavity must have contained more blood when the heart was contracted than when it was at the point of distension—surely an impossible event. The real explanation is probably, not that the parietes expand, but that, as in the case of other muscles, the heart becomes shorter and *thicker* in contraction, and the increased thickness gives the impression of expansion. We cannot agree with Dr. Paton in thinking that any physiologist would call the starting up of the heart on irritation, when lying on a table, the act of dilatation. Everyone would describe it as a contraction, notwithstanding the pressure it exerts against the hand closed over it, such pressure being obviously due to the ventricles becoming shorter and *thicker*.

Our readers will find a curious illustration in Dr. Paton's account of the causes of the *sounds* of the heart of the way in which an acute reasoner can argue himself, though we venture to say no one else, into the belief of a fallacy. Dr. Paton has satisfied himself that the *first* sound of the heart is mainly produced by the closure of the *semilunar* valves, and that the blood recoils against the aortic valves and shuts them during the ventricular *systole*, and not during its diastole. If this be true, why does the first sound continue to be audible whilst the second fails when the semilunar valves are hooked back? The *second* sound he attributes to the contraction of the auricles. We cannot indeed think that either of the above statements is admissible. Dr. Paton allows that the united testimony of many observers demonstrates that the first sound of the heart "is synchronous with the contraction of the ventricle and pulsation of the aorta. But the aorta cannot pulsate without the blood recoiling against the semilunar valves, and shutting them as it is impelled onwards." Why not? It seems to us there is no difficulty in conceiving the wave or pulsation in the aorta might be propagated, even were there no valves at all; and we feel quite convinced that the contraction of the ventricle, and the closure of the valves by the elastic recoil of the aorta and pulmonary arteries, are by no means synchronous, but successive events, with a small, yet distinctly appreciable, interval between them—in fact, the difference in point of time between the commencement of the first and the commencement of the second sound.

There are various points in Dr. Paton's treatise which we regret we have not space to comment upon at any length, but which appear to have collectively led him to the views that he holds. For instance (p. 43), he speaks of the parietes of the aorta as returning on their contents with an energy *superior* to that by which they were distended. How could this be except by muscular action, and where are the muscles in the aortic walls that are capable of such action? Again, a few lines further on, we meet with the remarkable statement that "it is during the *onward* course of the blood that it recoils against the aortic valves." How can this be? On the whole, Dr. Paton's arguments, though ingenious, have failed to alter our firm conviction that the first and second sounds of the heart are essentially valvular, the first being due to the tension of the auriculo-ventricular, the second to the tension of the semilunar valve. Our readers, however, had better read his book and estimate the value of his arguments for themselves.

St. Thomas's Hospital Reports. New Series. Vol. III. London: J. & A. Churchill. 1872.

THE third volume of these Reports contains several papers of interest. It opens with a contribution from Dr. Peacock, senior physician of the hospital, consisting of an analysis of the cases of rheumatic fever treated between the spring of 1868 and the same period of 1872. This is followed by a short and interestingly written paper by Dr. Frederick Pollard, surgical registrar, on the varieties of general paralysis. We confess that the article by Dr. John Harley, on tubercular fever and its relation to enteric fever, seems to us vague and inconclusive. The author says that the observations he has to make are, he believes, unfamiliar, and therefore discordant to received opinions respecting the nature of the disease. We are very far from objecting to them on this ground; on the contrary, we are only too glad to hail anything bearing the stamp of independent thought and observation. Still, after a careful perusal of the paper, we do not think that its author has done much to upset the ordinarily received opinions of enteric fever. Mr. MacCormac's article on subastragaloid dislocation of the foot, is a good one, and so is Mr. Francis Mason's short paper on the treatment of cicatrices after burns. Dr. Clapton reports some cases of dysenteric diarrhœa, in which a syphilitic history was traced, and he considers them to have had a syphilitic origin, and on that account to have been cured, as they were, by iodide of potassium. He refers to a similar and very obstinate case recorded by Trousseau, which ultimately yielded to a mercurial treatment. Dr. Clapton gives a case of chronic dysentery of a different character, by way of contrast, which was contracted in Egypt; and he states that it has been remarked by medical men who have been in the East that dysentery chiefly attacks Europeans who have a tendency to phthisis, and who would, probably, have been affected with it in cold climates. This is one reason, he says, why deaths by consumption so rarely occur in tropical climates. It is, in fact, merely a substitution of one disease for the other. We have heard similar statements before, but we strongly suspect that they are unfounded, and at variance with the medical records of our own army. Prof. Liebreich has a paper on the use and abuse of atropine; Dr. Payne relates an interesting case of injury to the sympathetic nerve in the neck; Dr. Bristowe describes an ingenious attempt to explain the cause of the formation of the spiral fibre in vegetable cells and vessels, and the same authority relates some cases illustrating the effects of pressure on the trachea, and on the recurrent laryngeal nerve, producing impairment of voice and dyspnœa. The statistics of 2401 cases of hernia are supplied by Mr. Croft; and Dr. Sydney Jones, surgeon to St. Thomas's Hospital, furnishes a practical contribution towards the surgical treatment of diseased joints. The volume contains, moreover, a report of the obstetrical department, by Dr. Henry Gervis; and a summary of the medical and surgical cases treated during 1871 by the medical and surgical registrars of the hospital. We gather from the Surgical Report furnished by Mr. W. Anderson, F.R.C.S., the surgical registrar, that 23 cases of erysipelas and 7 of pyæmia occurred in the surgical wards of that institution during 1871. Of the former 20 recovered, and 3 died. The disease was developed in the hospital wards in all but one of the cases; in 19 it started from open wounds. In two instances the disappearance of the erysipelas was followed in a few days by fatal pyæmia. The facts connected with the 7 fatal cases of pyæmia are shortly set forth in a special table. Considering that St. Thomas's Hospital is a new building, constructed on the pavilion principle, and supposed to embody the latest sanitary improvements, the occurrence of diseases of this nature is attended with a certain degree of melancholy interest.

ROYAL IRISH ACADEMY.—At a meeting held on the 15th inst., the following office-bearers were elected for the ensuing year:—President: John H. Jellett. Committee of Science: W. K. Sullivan, Henry Hennessy, Robert McDonnell, Samuel Haughton, E. Percival Wright, Robert Ball, Sir R. Kane, W. Archer, David Moore, John Casey, and Thomas Hayden. Librarian: J. Kells Ingram. Secretary of Council: Sir William Wilde.

THE LANCET.

LONDON: SATURDAY, MARCH 22, 1873.

WHAT next? and next? are the questions that must occur to everyone who has watched the proceedings of the General Medical Council during the last few years. For three or four years the Council has been doing almost nothing else than attempting to construct schemes for unifying the licensing authorities in each division of the United Kingdom. It has done this partly in consequence of a demand *ab extra*, and partly in deference to the report of its own Committee which some years ago was appointed to consider the subject. This report was accepted, and the Council passed the following resolution three years ago, and passed it unanimously, of course with the inevitable exception of Sir DOMINIC CORRIGAN, "That this Council is of opinion that a Joint Examining Board should be formed in each division of the kingdom." Last year the more independent section of the Council was wellnigh drawn into the use of unparliamentary language, because both Scotland and Ireland had no schemes to present to the Council at its meeting. But gentle words, said by the Laureate to be "always gain," prevailed, on the understanding that, if one year more were granted, the unruly bodies might yet be tamed and brought into obedience to the wish of the General Council. This year expires on Wednesday, the 26th inst.; and the simple question which we urge is—What next? and next?

It would be affectation to expect that schemes such as could be regarded as a solution of the question will be forthcoming either in Ireland or in England; and, as regards Scotland, to expect any scheme at all. Supposing the event to justify this feeling, the question remains—What next? The Council will bring great discredit to itself if it give another year to bodies which do not wish to see the one-portal system carried out, and which never mean to carry it out until they are compelled by law.

Another course is open to the Council—to drop the question entirely, and by talking about something else to distract the attention of the public from its own position in reference to it. And there actually are advisers who gravely recommend this course to the Council. Any course more stultifying or discreditable to the Council could not be taken, and we should hope that there is a considerable number of its members who would not retain their seats were it to be taken. But there are the weightiest reasons why things cannot remain as they are which must commend themselves to other members of the Council. We dwelt last week on the injustice of requiring a man to pass two examinations as like each other as tweedle-dum and tweedle-dee. If a man must pass more than one examination, let the second one be a higher one than the first, and represent a higher education. But there is a further argument. The law of medical qualification is at present absurd. One or two of the bodies are already giving double qualifications. The licence of the London College of Physicians is both a surgical and a medical one. The Edinburgh Colleges, together or in combination with the Glasgow Faculty, give a joint diploma. Either of these diplomas, qualifying the holder both in medicine and surgery, can be had for much less money than the licence of the English or Irish College of Surgeons, which are useless as medical qualifications, though involving an examination in medicine. In the Queen's University, which even Mr. GLADSTONE has not succeeded in killing, a degree in medicine can be had for £5, and a degree in surgery for £5—that is to say, for less than the double qualification of the London College or the Scotch bodies. Is there any reason why the London College of Surgeons or the Irish College of Surgeons, which both examine in medicine and therapeutics, should acquiesce in a state of the law which withholds a legal value from their diplomas which it gives to diplomas of the London and Scotch Colleges, involving less money and no more stringency of examination. The Hunterian Orator need not be at a loss to explain the declining numbers of the College of Surgeons of England. Why should men seek its one-sided diploma when they can get a two-sided one for less money from the College of Physicians? The one-portal system is, in fact, practised in an objectionable way, and two or three of the nineteen bodies are enjoying the advantages of it and of independence as well. Under all these circumstances our curiosity deepens to see what the Council will do next and—next.

THE Royal Commission of Inquiry into the condition of the Mercantile Marine cannot fail to elicit a vast amount of curious and valuable information. We trust, for the honour of our country and of human nature, that some of the graver malpractices—unparalleled for cruel, cold-blooded selfishness—charged by Mr. PLIMSOLL on a section, happily a small one, of the shipowning interest, may prove to be exaggerated statements, distorted and tinged by not unnatural indignation. For many years we have persistently advocated the improvement of the sanitary condition of the seafaring community, and eagerly welcomed the legislative enactments that sought to secure to them better food and more wholesome lodging on board ship, or to lessen their discomfort in inevitable sickness. But it would seem that while straining at gnats we have been swallowing camels. It strikes one as incongruous, and, were it not so sad a matter, almost ludicrous, to strive with effort for rations of lime-juice and preserved meats, vegetables and wine, and for a small increase in crew-accommodation, while, as is alleged, the crews themselves are in many instances consigned to wholesale and instantaneous destruction in order to enhance the trade profits of their employers. Were a tithe of these assertions proved to be true, no phase in the slave-trade of West or East Africa was ever more barbarous. Mr. PLIMSOLL admits that "such loss is due to a comparatively small number of shipowners. The large majority do take reasonable precautions for securing the safety of their servants' lives"; and he gives instances of fleets of steam colliers between the Tyne and London, and Peruvian guano ships, which for years have plied their dangerous calling without casualty or disaster.

The same diversity has always existed. We may be permitted to recall to our readers the discussion that preceded the Act of 1867, and the series of reports that appeared in THE LANCET in the beginning of that year. It is stated therein that "in some ships, through the wise liberality of owners and the paternal care of captains, the crews are healthy, contented, and attached to their occupation; while in others the misery and discomfort are beyond endurance, and render the vessel a floating Pandemonium." Referring to the frequent and gross adulterations of lime-juice—then, as now, a compulsory article of diet, but not, as now, subjected to special examination,—we remarked that "for the supply of an ordinary ship a very few pounds will represent the difference in cost between the best and worst lime-juice in the market; and it is for this paltry saving that 'highly respectable' men, local magnates and leaders in public movements, do not scruple to rob their servants of health and strength, and bring scorn and reproach on their country. It is to be regretted that in such flagrant cases as have recently occurred the sufferers did not seek redress by an action for damages. When the culprits are so numerous as to keep one another in countenance and defy exposure, it is only by mulcting the pocket that a desirable impression can be made on them."* From these quotations it will be seen that we sounded no uncertain note to call attention to the malfeasance, notorious and palpable, that then existed on a question of medical interest and of great importance to the well-being of the merchant navy. The evil was definite, and its correction inexpensive. No special commission or other complex machinery to ascertain the truth was necessary. The reports of the Medical Officer of the Privy Council and the staff of the *Dreadnought* led to the direct interference of the Board of Trade, who deputed the Medical Inspector of the Customs to make a series of investigations into the sanitary state of many vessels in the Port of London. His reports amply confirmed the suspicions that had been entertained of neglect, mismanagement, and systematic adulteration of antiscorbutics, even in vessels of a high class and otherwise good condition. Other defects bearing on the health of seamen were prominently brought to light; and, after two or three years of patient and minute inquiry, the Board of Trade accumulated abundant evidence to justify their obtaining from the Legislature the Act of 1867, which has, doubtless, conferred no small benefit on the crews of ocean ships, and has materially diminished the frequency and severity of scorbutic and other preventable disease.

As we have frequently indicated, two important steps remain to be taken in the interest of shipowners as well as of seamen themselves. One is the medical inspection of crews before shipment, to eliminate all who from disease or debility cannot render their full and honest share of labour in working the vessel. The other is the extension of the Contagious Diseases Act to the principal mercantile ports, where measures of prevention are even more imperatively called for than in naval arsenals or garrison towns. It is to be hoped that the Royal Commission will extend the scope of its inquiry to all essential points relating to the seaman's welfare. His life is hard, his prospects bleak, and his wages, in the present state of the labour market, low, or at least not tempting. The flower of our youth have learned to avoid a calling attended with so much privation and so little enjoyment. A large proportion of the crews of British ships are foreigners; some very bad, others, especially of the northern nations, hardy and trustworthy seamen—preferred, indeed, by many captains to the dwindled and debased "loafers" of our own seaport towns. It may one day become a serious national question whether it is desirable that our ships should be manned by so many aliens, even of an allied race. Germany, powerful on land, is rapidly growing in maritime strength. She may forbid her citizens, several thousands of whom sail at present under the English flag, from taking service in our marine, or, strange irony of events! might even interfere to prevent their maltreatment when with us. On all accounts it is most desirable and expedient that the nautical profession should be rendered more attractive to our own population, and the prestige of our naval ascendancy be fully maintained. We look, therefore, hopefully to good results from the labours of the promised Commission.

* Liverpool and the northern ports had a bad pre-eminence in this respect. The average London shipowner was, as a rule, less parsimonious, and seemed to be reasonably considerate in dietetic arrangements, although some points were capable of improvement.

IT may possibly interest some of our readers to know how the inspectorate for public health and Poor law purposes, as now organised under the Local Government Board, is constituted and paid.

As is well known, what was formerly the Poor-law Board and certain other departments have been amalgamated, and now jointly constitute the Local Government Board. But it is perhaps not equally well understood that, so far as the old Poor-law Board is concerned, the change has been effected by the conversion, *pur et simple*, of that Board as it stood in 1871-2 into the Local Government Board of 1872-3; while the other departments alluded to, instead of being absorbed into the Board, have rather been converted into satellites to the great planet of Gwydyr House.

The Local Government Board, then, about which so much is heard just now from all quarters, is simply the old Poor-law Board with a new name and an increased staff, as anybody may see for himself on comparing the Civil Service Estimates for this year with those for 1872, and as will be made tolerably clear in the course of these remarks. We are concerned here only with the inspectorate, and therefore leave the secretariat, the clerical, and other elements in the Board's constitution out of the question. It may not be amiss, however, just to mention a remark we have heard by the way, that there are now so many secretaries at Gwydyr House that in a correspondence on any given subject hardly any two letters bear the same signature. Perhaps this division of labour is supposed to be advantageous in the way of avoiding too great a sameness of ideas upon general principles.

Taking up this year's Estimates, and turning to the general heading "Local Government Board," we find the first subdivision is "Local Government Board," classed under which are fourteen inspectors, one sub-inspector, and twelve assistant-inspectors (temporary—i. e., for three years

from Aug. 1872). The salaries of these gentlemen are as follows: fourteen inspectors—six at £900, six at £700, and two at £500; one sub-inspector at £500; twelve assistant-inspectors at £400. In addition to salary, there are "personal" and travelling expenses, thus set down for the current year: personal expenses—one commuted at £370, four at £300 each, and fourteen at £200 each; travelling expenses—twenty-four at £200 each, and three at 10s. per day. It is explained that the personal expenses of eight of the inspectors are merged in their salaries. From KNIGHT'S *Local Government Almanac and Guide* we find that the following are the names of the gentlemen above referred to:—General Inspectors: Mr. HAWLEY; Mr. DOYLE (barrister); Mr. FARNALL, C.B.; Mr. CANE; Mr. CORBETT (barrister); Mr. PEEL; Mr. HEDLEY; Mr. HENLEY; Mr. LONGLEY (barrister); Dr. BRIDGES; Mr. LONGE (barrister); Mr. WODEHOUSE (barrister); Mr. DANBY FRY (barrister); Mr. FLEMING (barrister). Assistant General Inspectors (temporary): Mr. MURRAY BROWNE, Mr. DAVEY, Mr. MOULE, Mr. VERNEY, Mr. DANSEY, the Hon. REGINALD CAPEL, Mr. CULLEY, Mr. ADDERLEY, Mr. COURTENAY, Mr. BIRCHAM, Mr. DANSON, Mr. LOCKWOOD.

Let us now turn to the subdivision "Poor-law Department," where we find four inspectors of workhouse schools (Messrs. TUFNELL, BOWYER, BROWNE, and MOZLEY), with salaries ranging from £200 to £600, as the sole remaining representatives of the old Poor-law inspectorate. The inspection of pauper schools, and the salaries and expenses of the union auditors, comprise the whole of the provision shown in the Estimates for Poor-law administration; every other charge comes now under the "Local Government Board" category. What this means is that the inspectorate and office *personnel* generally of the old Poor-law Board have shuffled the cards so dexterously that they have got rid of a designation which was anything but popular, have managed to retain all the power they had, and have contrived to obtain in addition the entire control of the newly-created functions of public-health administration.

As regards the two remaining branches of the Local Government inspectorate—the engineering and the medical,—the Estimates afford no evidence that the affiliation of those branches to the Local Government Board has materially altered the scope of their operations from what it was when the Local Government Act Office was under the Home Office, and the Medical Department under the Privy Council. The general inspectors bask in the full rays of the presidential sun; while the scientific inspectorate have to put up with such a modicum thereof as is not absorbed by their more highly favoured colleagues on the general staff. We have often wondered why it was that when the "happy thought" occurred to somebody or other in power that barristers were fitting persons to advise local authorities on public health matters, he did not go a step further and advise that the medical inspectors should take a turn in the field of Poor-law administration. The change would then have been complete, instead of one-sided as it is now. It is not too late to try this plan even yet, and there is no knowing what we may come to.

Of the scientific inspectorate there are eleven inspectors attached to the Medical Department, and five to the Engineering Department. The medical staff comprises one inspector at £1100, one at £1000, two at £800 each, one at £700, one at £600, and five at £500 to £600 each; provision is also made for travelling expenses during the current year of £4100. The medical inspectors are Dr. SEATON, Dr. EDWARD SMITH, Dr. BUCHANAN, Dr. STEVENS, Mr. NETTEN RADCLIFFE, Dr. THORNE, Mr. BLAKALL, Dr. BEARD, Dr. BALLARD, Dr. AIRY, and Dr. HARRIES.

The engineering staff comprises one inspector at £1000, and four at £800 each, with travelling expenses estimated for the current year at £600 altogether.

For the purposes of the Alkali Acts there is one inspector at £700, and four sub-inspectors at £400 each.

We observe, finally, that the Estimates provide for a sum of £100,000 to pay this year's moiety of salaries to medical officers of health and inspectors of nuisances under the Sanitary Acts.

THE pathological changes of the sympathetic nervous system in syphilis is a field of investigation that has as yet had but few cultivators, though there is every reason for believing that it, in common with all other organs and tissues of the body, is liable to suffer from lesions produced by this widely pervading and searching disease. An essay to which the German term "Pathbreaking" may be applied appears in the last number of VIRCHOW'S *Archiv*, by Dr. P. PETROW, and contains the results of considerable research directed to the elucidation of this subject. Dr. PETROW has had the opportunity of examining the bodies of a number of patients who have died from the effects of syphilis in the Pathological Institute of St. Petersburg, and, having excised the cervical, thoracic, and solar plexuses soon after death, has either at once submitted them to microscopical investigation, or has previously hardened them with chromic acid, osmic acid, chloride of gold, or some other of the well-known methods of preparation best adapted for nervous tissue. He has found that the morbid appearances may be conveniently divided into those affecting the nerve-cells and fibres, and those implicating the interstitial connective tissue. In regard to the changes affecting the nerve-cells, M. PETROW finds that in those cases where the constitution has not been long affected with syphilis they preserve their normal size, form, and finely granular aspect, and contain small, brown, and highly refractile pigment-granules. The nucleus and nucleolus are distinctly visible. In cases where the duration of the disease has been longer, the pigmentation is still more marked, and the nucleus then either disappears or is no longer visible. The origin of the pigment, M. PETROW thinks, may with probability be referred to the hæmatin of the blood. It is true that such pigmentation may sometimes be observed in the cells of old people, but in such cases the nucleus always remains distinctly perceptible. The endothelium of the cells does not, in general, appear to undergo any alteration in syphilis, but sometimes it undergoes proliferation, forming a kind of capsule to the ganglion-cells. Besides these changes, the protoplasm of the sympathetic nerve-cells sometimes appears to undergo a kind of colloid change, becoming homogeneous and highly refractile; whilst the cells remain unchanged in form, and the nucleus is either invisible or compressed, as it were,

against the cell-wall. The transparent masses closely resemble vacuolæ, but can be clearly distinguished from these by the action of reagents. In the next place, in regard to the action of the disease upon the interstitial tissue, Dr. PETROW states that the connective tissue presents a hypertrophic condition, the fibres being large and coarse, evidently compressing and leading to the atrophy of the nerve-fibres. In addition, the endothelium investing the nerve-fibres has undergone proliferation, the cells become cloudy and finely granular, whilst the nuclei are in many instances lost. The nerve-fibres, instead of being homogeneous, are finely granular; the white fibres of REMAK are no longer distinguishable; and the fibres, as a whole, appear to undergo fatty degeneration. These pathological appearances seem to be fairly characteristic, and may perhaps, when further studied, lead to an explanation of some of the singular and exceptional local manifestations of disease that accompany syphilis, with which every practitioner must be familiar.

THOUGH we profess to live remote from the strife of parties in the State, the late Ministerial crisis cannot be a matter of indifference to us. It would be affectation in us to deny that a few of Mr. GLADSTONE'S subordinates have done their very best to estrange medical men from the Ministry, and to make us almost wish for a change for the sake of saving the credit of the departments. Under Mr. STANSFELD'S management of the Local Government Board, State Medicine, which had come to be greatly respected in the country, is being degraded. He seems to surround himself and his department with inexperienced lawyers, and to look to them for advice and counsel in Preventive Medicine. Under the influence of these new counsellors the Public Health Act is being wasted and the sanitary authorities are bewildered. The behaviour of Mr. BRUCE, as Home Secretary, in the matter of the Contagious Diseases Acts illustrated one great weakness of the late Government, which consisted in being too sensitive, not to public opinion, but rather to the voice of the noisy and somewhat hysterical section of society which relies on declamation and rhetoric. Mr. LOWE has certainly not realised the expectations of those who sent him to Parliament. It would be impossible for an angel to invest taxation with any charm to the taxpayer; but it has been reserved for Mr. LOWE to make it more intensely disagreeable by the coldness and heartlessness with which he receives the complaints of those who feel aggrieved by special forms of it. As professional men—a class, by the way, to which very largely Mr. LOWE owes his present honourable seat—we protest especially against the way in which hitherto he has sternly refused to modify the Income-tax, which bears so heavily on members of our profession, who work so hard, and whose lives are so precarious. We have another complaint to make against Mr. LOWE—that when an opportunity offered for creating more independent and efficient medical licensing boards, and a more independent and less costly Medical Council, he did not move his little finger to help in the matter. We had a right to expect a more determined course in one representing the University of London, and who had while out of office so ably exposed the faults of the Medical Council. Then there is Mr. AYRTON—we need not say more in explanation of a certain pleasure with which we regarded, apart from mere political questions, the chance of a change of Ministry. As regards Mr. GLADSTONE'S reluctance to return to power, nothing would grieve us more than to think that it has any serious physical basis, though this may well be partly the explanation of the delay with which he withdrew his resignation. We long ago suggested that, in the interest of the nation, he should have a rest. He is by nature a very hard worker. In the late debate he told us, or rather told Dr. LYON PLAYFAIR, in a sentence which must not be forgotten, that he got his education by as hard work as he had ever gone through in the House of Commons, and that he never attended a Professor's lecture but once. During the present Parliament his labours have been enormous, though often self-imposed. Under all these circumstances we conclude that his wish to be free from office is a physiological rather than a political feeling; and we believe, as we hope, that a little rest, by which we mean a change of occupation, would soon recruit his vigour, and make him once more long "for fresh woods and pastures new."

Medical Annotations.

"Ne quid nimis."

THE COLLEGE OF SURGEONS.

THE motions carried at the last meeting of the Council of the College of Surgeons, which we published last week, show that the Council is in earnest in wishing to check the present profuse advertising of medical books in non-medical journals. It certainly is as well that the resolutions on the subject passed in January last should be communicated to the President of the College of Physicians, since certain Fellows of that College are among the most prominent transgressors in this particular. Mr. Harry Lobb, to whom the Council had addressed a special remonstrance on the subject of his advertisements, which led to a temporary withdrawal of them, has, we understand, informed the Council of his determination to resume the publication in question, as he thinks his advertisements are not more offensive than many contained in the lists of the medical publishers. It remains to be seen whether the Council possess legal powers to enforce their views upon Mr. Lobb, who thus practically defies them.

The motion that no annual charges on the income of the College should be proposed without due notice arose from the proposal to increase the salary of the Curator of the Museum by £200. We should be sorry to appear to undervalue Mr. Flower's valuable services; but in the present transitional state of the College, when the funds at its future disposal are quite unsettled, it seems a little rash to make a fresh charge upon a diminishing income. The museum last year cost £2300, or £250 more than the entire income of the College from its investments; and of this no less than £1521 went in salaries and wages. The present curator has a house and allowances, and also enjoys the Professorship of Comparative Anatomy and Physiology at a handsome salary; and we would suggest, therefore, that the proposed addition be postponed until the details of the conjoint examining scheme are finally settled.

The Council has resolved to entertain its Fellows and Members at a *soirée* to be given on the occasion of the meeting of the British Medical Association in London in August next, thus following the precedent of 1862.

COUNSEL ON RIGHTS OF LICENTIATES OF THE COLLEGE OF PHYSICIANS OF EDINBURGH.

THE College of Physicians of Edinburgh has wisely lost no time in taking counsel's opinion on the right of its licentiates, registered under the Medical Act, to sue in any court of law for the cost of medicines supplied by them while in attendance on a medical case, and on their liability to a conviction under the Apothecaries Act for having supplied such medicines. The College also asks—Supposing that by the Apothecaries Act a Licentiate of the Royal College of Physicians of Edinburgh was prevented from suing for medicines supplied, would the fact of his having supplied medicines, although he made no charge therefore, incapacitate him from suing and recovering reasonable charges for professional aid, advice, and visits? The following is the opinion:—

"1. We are clearly of opinion that a medical practitioner, duly licensed by the Royal College of Physicians of Edinburgh, and registered as such licentiate under the Medical Act, may dispense medicines in England, may sue in any court for medicines so supplied by him, and would not be liable to a conviction under the Apothecaries Act for having supplied them. The Medical Act superadds another qualification upon that required by the Apothecaries Act—viz., that the practitioner dispensing medicines as part of his professional practice shall be (among others) a Fellow or Licentiate of the Royal College of Physicians of Edinburgh, and registered as such. The Apothecaries Act is not repealed. It still has its application to persons not having the new qualification conferred by the Medical Act, but its provisions are superseded where the new qualification attaches.

"2. In our view, it becomes unnecessary to answer the second query."

(Signed) G. JESSEL.
J. H. LLOYD.

House of Lords, March 4th, 1873.

We have always held that the Licentiates of the College of Physicians could claim for medicines, and could act as general practitioners. The 31st section of the Medical Act is so plain that one is puzzled to understand how several magistrates have given wrong judgments. At the same time, as wrong judgments have been given and may be given again, we hope Mr. O'Flanaghan will persist in his appeal to a superior court, and that he will be supported in doing so by the College. We shall next week report the case of a successful suit by a licentiate, who thought it wise not to make any charge for medicines. The case has other points of interest.

LARGE DOSES OF BELLADONNA IN WHOOPING-COUGH.

A PAPER in the *Practitioner* for March, by Dr. Charles Kelly, gives particulars of a rather bold experiment in the treatment of whooping-cough by large doses of belladonna. In the first case, a child, aged five years, took more than thirteen drachms of the tincture in four days and a half, thus:—"July 30th: At 6 A.M., and again at 10 A.M., he had thirty minims of tincture of belladonna. At 11.30 A.M. the tongue was rather dry and glazed at the centre, but the pupils were natural, and there was no flush or feverishness; fifteen minims of the tincture were then given every four hours. The next day the same quantity was given every two hours, but without producing any apparent effect." On Aug. 2nd, he was rather restless during the afternoon; at 3 P.M. ten minims were given every hour. On Aug. 3rd, the face was slightly flushed; the cough was so much relieved that at 8 P.M. the medicine was discontinued. After taking the tincture for four days and a half the whoop nearly ceased. He coughed slightly after this date, but whooped only four times the following week, and was then quite cured. The second child, much thinned by previous illness, was two years and eight months old; and had fifteen drachms of the tincture of belladonna in four days, with no more result than a blush over the skin for a short time and dilated pupils. The whoops diminished a little in frequency and considerably in severity. After a few days' interval sixteen drachms were again given in four days, and a rapid recovery took place. The third case, a boy six and a half years old, was more affected than the others. Rather more than eleven drachms were given in four days, and, after a short interval, fifteen drachms were given in five days. The whoops were rather more frequent while taking the medicine than after its discontinuance.

The chief interest of this somewhat startling experiment is in the doses of belladonna borne without serious toxicological results. We are disposed to question the genuineness or quality of the tincture. The remedy was tried in a great number of cases, with benefit in some, but with quite negative results in other cases. We congratulate Dr. Kelly on the merely negative results. We have to thank him for a remarkable experiment in therapeutics, though there is little in its results to encourage an imitation of the practice. Children were known to be tolerant of belladonna, but Dr. Kelly's cases give an illustration of the fact that will surprise the profession.

PROCURING ABORTION.

DURING the present month two interesting cases of abortion-mongering have been tried, the one at the Derby Assizes before Mr. Justice Denman, resulting in an acquittal, and the other at Nottingham, before Chief Justice Bovill, resulting in a conviction. In the first case James Poole, aged forty-nine, an unqualified accoucheur, residing at Longnor, in Staffordshire, was indicted for the wilful murder of Louisa Atkin, aged sixteen. The chief witness was Louisa Atkin, the mother of the deceased, whose evidence was, in substance, as follows: That on February 11th last, noticing her daughter to be pregnant, she besought the prisoner to give her a little medicine "to set matters right." The prisoner came to witness's house, and was alone in a room with the deceased for half an hour, and then stated that the instrument he had brought ("a silver instrument with a kind of turn at one end") was not strong enough. On the 17th the prisoner visited the deceased again, bringing a stronger instrument. The deceased was confined with a dead child on the morning of the 19th, and died on the following day from peritonitis. Mr. T. N. Twigg, of Parwich, gave evidence that he had made a post-mortem examination of the deceased; that the cause of death was inflammation of the womb, the result of mechanical violence, and that "there was nothing in the condition of the deceased which would justify the procuring of abortion." The father of the deceased, who, according to the mother's evidence, was mainly instrumental in arranging matters with the prisoner, had absconded. The evidence of the woman Atkin was considered unworthy of credence, as she admitted having sworn falsely before the coroner. The jury therefore, after a deliberation of over three hours, acquitted the prisoner. From the account given in the local paper, we do not learn that any examination was made of the fœtus, a very serious oversight (unless from some cause unavoidable).

In the second case, Ann Sharpe, a charwoman, aged forty-eight, was convicted of feloniously using an instrument with intent to procure the miscarriage of Harriet Moore. The facts of the case were perfectly plain, the principal witness being the girl Moore herself. It appeared from her evidence that she, being pregnant by a man named Jelley, visited the prisoner Sharpe, who lived at Nottingham,

on the 8th of January last. The prisoner seems, from the evidence, to have punctured the membranes with an ivory crochet needle, and on the 11th of January Moore was delivered of a still-born child. Sharpe was sentenced to ten years penal servitude, and another woman who was proved to be accessory to the act was sentenced to fifteen months' imprisonment. The case was the cause of much popular excitement, and a strange and ominous amount of sympathy was manifested for the prisoner Sharpe, who was, there can be little doubt, a professional abortion-monger.

THE NAVAL HOSPITALS.

THE senior appointments at the two great naval hospitals of Haslar and Plymouth become vacant next month by the expiration of the term for which these offices are held. Inspector-General Salmon has been in charge of Haslar Hospital since 1869, and Inspector-General Davidson of Plymouth since 1868, and both officers have shown great administrative talent, and have had the opportunity of proving that great medical establishments can be satisfactorily worked without the introduction of the military element in the form of a Captain-Superintendent, an office now happily abolished.

For the successors to these gentlemen there is no wide field of choice, since the active list of inspectors is limited to four. Next in seniority stands Dr. Smart, C.B., a distinguished officer, who did good service in the Crimea and in China, and has served as a deputy-inspector at Bermuda and Greenwich. Dr. Smart has been unemployed since his promotion to inspectorial rank in 1869, though he has not been inactive in contributing to medical literature, and he will doubtless be appointed to one of the vacant offices—probably that at Haslar, as the senior and more important post. Dr. Minter, the remaining inspector, was promoted only a year back, and it will be remembered that the event raised some discussion at the time. This officer's services have been confined for nearly twenty years to the very light and agreeable duty connected with the royal yacht, with the exception of some four months, during which he held office at Malta Hospital, in order to qualify for promotion. Dr. Minter's experience of hospital administration is, therefore, of the very smallest, and as he is already entitled to the highest rate of retirement to which he can possibly attain, it would, in our opinion, be a graceful act in him to make way for the promotion of one of the deputy-inspectors by accepting his retirement at the present juncture.

THE HEALTH OF LIVERPOOL.

THE health of Liverpool, with its motley population, the next largest to that of London, and more closely packed than any other in England or Scotland, is always a matter of public interest, the more so as it is so plainly stated in the annual report of Dr. Trench. That for 1872 is now before us. We can only extract a few facts, and congratulate Dr. Trench that though he is responsible for the health of the densest population in the country, the mortality of it is now lower than that of Glasgow, Leeds, and Manchester. London is still the healthiest of the large towns of Great Britain. The annual death-rate in these to 1000 of the population is given in a table, thus—London, 21·4; Bristol, 22·0; Birmingham, 22·9; Manchester, 28·5; Salford, 25·7; Sheffield, 26·0; Bradford, 26·2; Leeds, 27·8; Newcastle-on-Tyne, 26·2; Hull, 26·1; Edinburgh, 26·4; Glasgow, 28·4; Liverpool, 27·0. There were within the borough of Liverpool 19,343 births, and 13,540 deaths, or 5803 more births than deaths. There is, as usual, a very serious difference between the death-rate of the parish and that of the out-township; in the former it is equal to 31·2, and in the latter to 23 per 1000 of the population. The average age at death was twenty-four years; 6608 infants below five years of age died, making 48 per cent. of the whole. In Scotland ward 61 per cent. of the deaths occurred under five years of age. The deaths from fever average 1122; in 1872 they were 451. Zymotic diseases occasioned 3305 deaths, or 24·4 per cent. of the total mortality. Relapsing fever still lingered enough to cause 25 deaths in the year. The most fatal zymotic disease was diarrhœa, which caused 998 deaths; whooping-cough, 591; measles, 476; scarlet fever, 222, a less number than in any year of the previous decenniad. Tubercular disease, chiefly phthisis, caused 2010 deaths, or 14·8 per cent. of the whole mortality; zymotic disease causing, as we have said, 24·4. No lodger died from fever or small-pox in a registered lodging-house. Mortuaries, provided under the Public Health Act, were used in 28 cases, chiefly where the family lived and slept in the same room with the corpse. Under the same Act, 49 persons were removed to the workhouse hospitals; in 40 of the cases, all suffering from fever, the law had to be enforced against the wishes of the patients or friends. All infected houses are disinfected, free of cost, with sulphurous gas. Where this cannot be used, on account of the presence of the sick, carbolic acid powder is freely sprinkled in rooms and passages till the sulphurous gas can be used with safety.

THE NEW SLIDING SEATS IN THE UNIVERSITY BOATS FROM AN ANATOMICAL POINT OF VIEW.

OUR readers may have observed that a new feature of interest in the approaching contest between the two Universities on the Thames is afforded by the introduction of sliding seats which work on glass in two grooves with ivory or bone runners, so that they move to and fro very easily during the stroke. Professor Humphry, who examined the working of them when they were first tried on the Cam by the Cambridge crew, writes that the effect of a sliding seat is to cause the pelvis to be carried to and fro with the trunk during the stroke, and so to increase the length of the stroke. In rowing with the ordinary seat, he observes, the trunk moves on an axis drawn through the hip-joints, and the muscles of the lower limbs—those acting on the knees and ankles—are employed in keeping this axis fixed. Their work, in short, is confined to rendering the lower limbs fixed *points d'appui*, and they do not participate, or they participate but little, in the shortening or lengthening which the muscles of the trunk and upper limbs undergo in effecting the movements of the stroke. Upon the sliding seat, on the contrary, the pelvis passes backwards and forwards together with the seat (backwards in the backward, and forwards in the forward movement of the trunk), and the axis of motion of the trunk, drawn still through the hips, is a sliding axis something after the manner of the axis of motion of the leg upon the thigh, familiar to anatomists, in the bending and straightening of the knee. The length of the stroke is thus increased, and it is increased by the action of the muscles of the lower limbs, which do not, under these circumstances, hold the limbs rigidly in one position, but, by bending and straightening the knees, move the body with the seat forwards and backwards, and so share with other muscles the work to be done in propelling the boat. The Professor, therefore, is of opinion that when the men are accustomed to the movement there will be a gain from the use of the sliding seats, and that a greater velocity will be attained, or a given velocity will be more easily maintained, in consequence of the stroke being lengthened and the effort being shared by a greater number of muscles. He adds, however, that the problems

of muscular action are very difficult, and that it must remain with the practical test to prove or disprove these scientific speculations.

It may be added, that in Professor Humphry's opinion the effects of boating upon the health of the students are not nearly so detrimental as is commonly supposed, and a large experience among boating men during more than thirty years' practice at Cambridge enables him to speak with some authority on the subject.

OPHTHALMIA IN SCHOOLS.

WE have on previous occasions adverted to the prevalence of ophthalmia in schools. While this disease is the scourge of institutions appropriated to the use of the pauper classes, its presence in our upper and middle class schools is an extremely exceptional occurrence. The enfeebled health consequent on the imperfect nutrition and privation to which the children of the more indigent classes are exposed is a strong predisposing cause no doubt to this and other affections. Still, ophthalmia is a preventable disease. Its occurrence is suggestive of defective hygiene somewhere, and its persistence or repeated recurrence in a public institution as an epidemic indicates the existence of insanitary conditions of some kind—overcrowding, for example. Like so many other contagious diseases, the eradication of ophthalmia, when once introduced into a large school, is generally a matter of difficulty, and takes time to effect. If any overcrowding exists, the best course is to remedy it at once by sending as many children to their homes as practicable. We are very glad to notice, by a communication from the chairman of the North Surrey Schools, that every case, be it trifling or serious, is at once sent to the infirmary; that arrangements also exist for intermediate and convalescent cases; and that there is a preliminary building where the newly admitted children are retained for a time.

The directions in which sanitary improvements are required, nine times out of ten, in buildings where ophthalmia is prevalent, are:—In the provision of ample cubic and superficial space, with effective ventilation and warming in all associated dormitories and day-rooms occupied by the children; in the appointment of a good staff of nurses, and the exercise of a rigid surveillance over the ablutionary arrangements, to guard against the spread of the disease through water or towels being infected with the discharges from affected eyes; and, lastly, in providing the children with a somewhat liberal scale of meat diet, and seeking by frequent out-door exercises beyond the precincts of the building to create in them an appetite for their food.

EXCISION OF BRACHIAL PLEXUS FOR NEURALGIA.

A DARING operation for the relief of neuralgia has been reported by MM. Sequin and Sands in M. Brown-Séquard's new *Archives of Science and Practical Medicine*, the first part of which has just been published. The case was that of a young man aged eighteen, who suffered from severe injury in the right upper extremity from the premature explosion of a cannon he was in the act of loading. The thumb was badly lacerated, both bones of the forearm were broken, and there was an extensive burn of the skin. The sensation of the part was entirely lost for several weeks. Pain then began to be felt in the region corresponding to the distribution of the ulnar nerve, which was at first intermittent, but subsequently became constant; and after a time it extended to the parts supplied by the median. Anodynes and narcotics were freely employed without material relief. Careful examination showed that there was analgesia nearly as high as the insertion of the deltoid. All active or passive movement of the limb was dreaded, and the patient had lost all power over the muscles of the forearm. A consultation being held, it was determined to amputate above the line of complete analgesia, and some temporary relief was experienced; but soon the burning, tearing pain returned with terrible violence, and it was obvious that something further must be done, or the man would die from pain. Accordingly it was resolved that the nerves forming the brachial plexus should be cut down upon and excised. This was accomplished without difficulty by an ⌐-shaped incision along the clavicle and the posterior border of the sterno-mastoid muscle. Some but apparently not very great improvement has followed, but the man is still suffering pain. The case presents many points of interest. Dr. Sequin examined the limb immediately after it was amputated, and tested the irritability of the nerves and muscles respectively. He found that the nerves had entirely lost their irritability, whilst the muscles were sensitive to unusually feeble currents. The structure of the nerves had undergone great alteration, and the appearances present are depicted in a plate which accompanies the paper. The treatment adopted reflects great credit on Drs. Sequin and Sands, notwithstanding that it was not attended with perfect success.

THE PATHOLOGY OF TUBERCLE.

THERE was an unusually large attendance of members and visitors at the meeting of the Pathological Society on Tuesday evening last, to hear Dr. Wilson Fox discuss his views upon the Anatomical Relations of Pulmonary Phthisis to Tubercle of the Lung. The whole of the evening was occupied by Dr. Fox in expounding his views, which were illustrated by a large number of drawings and microscopical specimens. The President, in adjourning the discussion to the next meeting, announced that the Council considered it advisable that the gentlemen who wished to take part should give in their names, as early as was convenient, to the Secretary, and at the same time should state as far as possible the time they would require to express their opinions, for the discussion could not be prolonged beyond that evening. A full report of Dr. Fox's paper will be found in another column; but we shall for the present reserve any remarks upon it.

THE BEDFORD INFIRMARY.

ANOTHER excited meeting of the governors of this charity respecting the case of a patient suffering from retention of urine has resulted, as we anticipated (THE LANCET, Jan. 25th), in the confirmation of the course pursued by the Weekly Board. We have read the voluminous report of the speeches made on the occasion, as well as the document put forth by Mr. Johnson. It seems to us that the real points in the case are circumscribed within very narrow limits. The members of the Weekly Board and the governors very properly disclaimed all intention of discussing the medical bearings of the case. The majority of them, at any rate, were incompetent to decide upon these; but it was within their province, and clearly pertinent to the functions of a weekly board, to inquire whether their house-surgeon's action in the case was, or was not, consistent with the spirit and intention of the rules regulating their institution, and in conformity with the custom ordinarily pursued in that of others under similar circumstances. There is no necessity for us to go over the case again. The facts are not disputed; and we have not a shadow of doubt that it was Mr. Johnson's duty to have sent for the responsible surgeon under the circumstances detailed in this case. A spirit of delicacy and good feeling towards Mr. Johnson is apparent throughout the whole

course of the proceedings, and deservedly so, no doubt, to a long and tried servant of the institution. Still, rules are rules. Whatever Mr. Johnson might have surmised as to the extent of the relief afforded by the measures he pursued, it is abundantly clear that this was quite inadequate to the gravity of the case. Now, let a house-surgeon's skill be what it may, we contend he has no right to assume a responsibility which belongs to his superior officer and not to him. One of the chief reasons for the existence of public hospitals like that of Bedford, is to secure the largest amount of, as well as the best, skill and advice that can be brought to bear on the cases of those admitted within their walls, and this can only be done by, first of all, framing good rules and afterwards seeing that they are religiously carried out. It is much to be regretted, for Mr. Johnson's sake, that any other issue than this was raised; and we are showing more discretion and consideration for his interests than some of his friends displayed, in limiting it to the question of regulation.

HOSPITAL SUNDAY AND SATURDAY.

WE are glad to learn from the Lord Mayor's letter in *The Times* of Wednesday last, that the difficulty which at one time seemed to threaten the harmonious working of the Metropolitan Hospital Sunday in the Fulham and Hammersmith districts has terminated in the unanimous concurrence of the clergy there in favour of the general fund as distinguished from a merely local application of the money which may be collected. Sir Sydney Waterlow may well feel gratified in being able to announce that the officiating ministers of more than six hundred places of worship have promised their co-operation on Sunday, the 15th June, and that an equal number, not being able to arrange for that particular Sunday, have agreed to make collections on some other Sunday this year. This will be a good beginning, at any rate, and there is no doubt whatever that next year will see an almost general adoption of the simultaneous principle, which is essential to the thorough working out of the plan.

Although Birmingham was the first town to set the example of having a Hospital Sunday, it has been slow in taking up the Hospital Saturday movement. The delay, however, has given those interested in the subject an opportunity of thoroughly maturing the details and of systematically organising the machinery for making a simultaneous collection in all the factories and workshops of this Midland beehive. The result is, that last Saturday the noble sum of £4000 was contributed by the working men of Birmingham for the support of their medical charities. Thus Birmingham in her first year eclipses her larger and wealthier rivals, Liverpool and Manchester, the former in her first year only receiving £1696, and the latter in her second only reaching £2346. The success of the undertaking is in a very great degree to be attributed to the zeal and industry exhibited by Mr. Sampson Gamgee, who, as honorary secretary, has for the last three months laboured incessantly in its behalf.

THE CATTLE-PLAGUE IN RUSSIA.

THE *Voiz*, commenting upon the labours of a commission charged by the Minister of the Interior to inquire into the means of diminishing the bovine pest, gives a sad account of the devastations of this epizootic among Russian herds. It states that every government in the Empire, not even excepting Siberia, suffers continually immense losses by this formidable plague—losses all the more sensibly felt as they interfere most disastrously with agricultural work. Without referring to accidental causes of mortality, it is asserted that bovine pest alone causes an annual loss in Russia of not less than 300,000. This loss weighs heavily upon the productive forces of the Empire—that is to say, upon the sources of public wealth. In certain localities measures have been taken to limit the action of the epizootic, but these measures do not always succeed, partly because there exist sources of propagation of the epizootic of which the extinction does not depend upon the action of the zemtsos, and partly because the zemtsos do not hold the same opinion as to the best means to compass the end sought. Owing to this latter consideration, it often happens that the pecuniary resources of the zemtsos have been expended to no purpose. The *Voiz* refers to the rapid and notable advance in the price of meat arising from the diminution of horned cattle, and from the risks undergone in the movement of cattle by reason of the extreme contagiousness of the epidemic. The Commission has for its object to study the existing law relating to cattle diseases, to examine the routes now commonly traversed by cattle in the ordinary course of traffic with a view to their regulation, to ascertain the opinions of local authorities as to the measures for arresting the epizootic, and particularly as to indemnifying owners for the cattle killed as a measure of safety, and, finally, to study the regulations as to commerce in cattle existing in adjacent countries. The *Voiz* states that the report of the Commission will shortly be published, and it expresses a hope that the present year will see the adoption of measures calculated to limit, and perhaps ultimately extinguish, the ravages of this epizootic.

THE WEST COAST OF AFRICA.

THE climate of the West Coast of Africa is notorious for anything but its salubrious effects on the European constitution. It sometimes happens, however, that officers serving in that station manage to preserve their health, and, as far as army medical officers are concerned, the authorities have placed strong inducements before them to incur the risk. According to the terms of the late warrant, officers who may hereafter enter the Army Medical Department expressly for service on the West Coast of Africa, as well as those who may volunteer for that service from the General Department, are to receive double pay while actually serving on the Coast. Every year, or portion of a year, spent on the West Coast reckons double towards the officer's retirement, and every year of such service entitles him to a year's leave at home, with the equivalent extension of leave for every additional period beyond the year. The greater the amount of sickness the larger is the number of doctors required, and the standard of their attainments should not, in the opinion of the authorities, be inferior to that of other officers. Medical candidates entering the department expressly for this service will, therefore, in future have to pass the same examination as other medical officers, but they are admitted at a later age.

PROVIDENT DISPENSARY AT READING.

THIS institution, established in 1802, is interesting as combining a free and a provident system. The attempt to combine the two principles, which began three years ago, has been so far very successful. More than £600 was paid by provident members during last year. The medical officers, three in number, exclusive of consulting officers, receive 4s. 4d. for each member, and 8s. 8d. for each family per year, whether the member be provident or supplied with a nomination given by a subscriber. Last year £494 19s. 1d. was divided between three medical officers. Provident members are admitted when their earnings do not exceed 30s. a week, and tickets cannot be given by governors to persons gaining more than 15s. a week, unless

in exceptional cases allowed by the Committee. Labours are attended by midwives. If the doctors of the dispensary are called in, a guinea is paid out of the funds of the dispensary. Of 6986 cases treated, 6045 were provident members and 941 were treated on the nomination of governors. Persons actually sick may become members by paying an entrance fee of 4s. in addition to the usual weekly subscription, 1½d. Under this rule 258 cases were admitted in 1872. The rules allow of not more than six medical officers in ordinary, and not less than three. The Committee is composed exclusively of governors.

MEMORIAL TO PROFESSOR SEDGWICK.

THE following circular has been issued:—

"Anatomical Museum, Cambridge.

"SIR,—A meeting of the friends of the late Professor Sedgwick will be held in the Senate-house, Cambridge, on Tuesday, March 25th, at two o'clock, to consider the steps to be taken for raising a memorial to him. The Duke of Devonshire, Chancellor of the University, has consented to preside on the occasion. The Committee appointed to carry out the arrangements hope that you may find it practicable to be present at the meeting.

"G. M. HUMPHRY,
Prof. of Anatomy, Chairman of the Committee."

It is hoped that the memorial will take the form of a new geological museum, which is much needed, the present splendid collection, upon which Professor Sedgwick laboured so much, being now but indifferently accommodated in a room under the University library.

HABITUAL DRUNKARDS BILL.

AMONG the measures which have been thrown out of their position before the House of Commons by the resignation of Mr. Gladstone is that of the Bill for the management of habitual drunkards. This stood second for Wednesday, the 12th inst., and would, we have reason to believe, have passed the second reading, though subject to alteration in committee. Though compelled to defer it to a later or less favourable period, Mr. Dalrymple intends to persevere with the Bill, and avail himself of the first opening that is presented.

THE WESTMINSTER HOSPITAL.

MR. BARNARD HOLT has, we understand, resigned the post of Senior Surgeon of the Westminster Hospital, after being connected with that institution as pupil and surgeon nearly forty years. It is remarkable how rapid the promotion at this hospital has been of late, after a long stagnation. Mr. Holthouse becomes senior surgeon, and Mr. G. Cowell, the senior assistant-surgeon, will no doubt be promoted in due course.

THE ADULTERATION ACT IN DUNDEE.

THE ancient town of Dundee must be an extremely dyspeptic place to live in. The local authorities have lately been considering the desirability of appointing an analyst, under the Adulteration Act, for the town. In order to arrive at a definite idea of the probable requirements of the office, a raid was made on the various articles of food sold in the shops for the purpose of analysis. Last week the report of the analysis was laid before the authorities, when a lamentable amount of trade immorality was shown to exist in the town. In eighteen samples of tea, some of them purchased in the largest tea warehouses in Dundee, not one pure sample was found amongst them, all being more or less adulterated with prussian blue, blacklead, starch, turmeric, carbonate of lime, china clay, &c. The coffee was mixed with chicory, and the cocoa with starch and sugar. The flour was mixed with alum, and the butter with fat. Lastly, and apparently by far the most heinous enormity, the whisky was adulterated in ten samples out of thirteen, fusel oil and methylated spirits being largely used in the preparation of the "dew." Singularly enough, marmalade, an important produce of the town, does not yet appear to have been analysed. Enough, however, has been made apparent by the foregoing facts to necessitate the immediate appointment of an analyst for Dundee.

THE Birmingham Town Council had lately under their consideration the question of increasing the salary of the gaol surgeon, and with the view of enabling them to arrive at an equitable determination, the following rates of salaries of medical officers to other gaols had been supplied at their request:—The salary of the surgeon to the prison at Nottingham was £90 per annum; average number of prisoners daily, 59; average daily admissions, 2. Warwick: salary, £150; prisoners, 171; officers, 27; daily admissions, 3 to 4. York: salary, £300; prisoners, 138; daily admissions, 4. Stafford: salary, £250, with £30 for medicines; prisoners, 519; daily admissions, 15. Liverpool: salary, £200, with assistant resident surgeon at £204; prisoners, 977; officers, 75; daily admissions, 44. Manchester: salary, £300; prisoners, 608; officers, 64; daily admissions, 27. Worcester: salary £160, with infirmary warder, a dispenser, at £120; prisoners, 213; daily admissions, 5. Gloucester: salary, £180; prisoners, 200; officers, 20; daily admissions, 6. Derby: salary, £150; prisoners, 206; daily admissions, 6. Wakefield: salary, £350, with assistant at £200, and drugs found by the parish authorities; prisoners, 1161; officers, 106; daily admissions, 24. Usk: salary, £150; prisoners, 138; officers, 17; daily admissions, 1 to 5. Lancaster: salary, £200; prisoners, 206; daily admissions, 9.

AT the last meeting of the Islington Vestry it was decided, on the recommendation of the Sanitary Committee, to erect a mortuary for the district, at an estimated cost of £500. This determination was arrived at not a whit too soon as the old building serving the purpose of a dead-house is reported to be merely a collection of rickety sheds. The new mortuary will be a commodious structure, having separate post-mortem and waiting-rooms, with a room for the holding of coroner's inquests. This latter step will, we hope, entirely preclude the necessity of holding inquests in public-houses, the indecency of which procedure is now beginning to be generally felt in the metropolis.

WE are sorry to observe that the medical officer of St. George's-in-the-East Workhouse, against the unanimous wish of the guardians, is strenuously opposing what is in most workhouses a customary allowance of beer for paupers who work as tailors, shoemakers, &c., thus partially recouping the parish for their keep. It is difficult to conceive what valid objection Dr. Belcher can have against the very moderate allowance of beer customary in such cases. However, as the Poor-law Orders require the sanction of the medical officer to the bestowal of malt liquor, we suppose the working inmates will be deprived of their harmless luxury.

A NUMBER of provincial mayors and aldermen met last week at the Westminster Palace Hotel for the purpose of arranging an interview with Mr. Stansfeld in which they would urge the extension of time for the repayment of loans under the Sanitary Act. They, however, resolved to defer the interview until parliamentary business is in a more settled state.

AT a meeting of the sanitary authorities of the North Bierley Union, Yorkshire (acreage 33,744, population 90,257), held at the Victoria Hotel, Bradford, on the 6th inst., Mr. Baldwin Fleming, one of the general inspectors of the Local Government Board, was present, and explained the views of the Board as to the appointment of medical officers of health. A resolution was carried to the effect "that it was the opinion of the meeting that a medical officer of health should be appointed for the whole union, and that the Government allowance of one-half the salary of such officer ought to be accepted." Mr. Fleming had suggested a salary of from £600 to £800 for the whole union.

DR. WILLIAMS, Secretary to the Veterinary Department of the Privy Council, in the course of his examination before the Select Committee appointed to inquire into the operation of the Contagious Diseases (Animals) Acts, pointed out the desirability of having at every port at which cattle were disembarked accommodation for landing each cargo separately, a suitable house for the slaughter of infected animals, and means for the destruction of their carcasses.

AT a Poor-law conference held last week in Leeds, it was proposed by Dr. Crichton Browne that a middle-class lunatic asylum should be established in Yorkshire for those who, while above the pauper class, were yet unable to pay the high rates demanded for lunatics in private asylums. The proposal met with warm support.

DR. ILIFF, Medical Officer of Health for Newington, made an excellent suggestion to the St. Saviour's Board of Guardians at their last meeting. During the occurrence of fever in any locality he recommended that disinfectants should be given out at the various parish dispensaries at the same time that the medicines were dispensed.

DR. STEVENSON, analyst for St. Pancras, lately examined twenty-seven samples of bread in the district with the satisfactory result that in five samples only did he detect alum adulteration. In several samples of tea which he has also examined, he could not find any appreciable sophistication.

THE Westminster District Board have rejected the report of their committee recommending that Dr. Du Pré be appointed analyst at a salary of £150 a year, and have determined to throw open the appointment with a salary attached of £100 a year.

IT has just come to light that during the last few years a large trade has been going on in forged diplomas purporting to be from the German University of Marburg, no less than forty persons in this country having purchased the worthless documents.

THE sanitary authorities of St. James's, Westminster, have instructed their medical officer to circulate handbills through the parish containing concise information respecting the provisions of the Adulteration Act. This step might advantageously be followed in other districts.

ON Friday, the 14th inst., the foundation-stone of the Ulster Eye, Ear, and Throat Hospital was laid in Clifton-street, Belfast, by Mr. Henderson, the mayor. The entire cost of the building, £3200, will be borne by Mr. Benn, Glenranil.

WE regret to learn that the Hackney vestry appear determined to oppose the erection of public baths for the district.

AN impetus has been given to the already vast trade in rabbits by the discovery that their hair can be woven into a good yarn, not inferior to wool. An important industry will probably arise from the discovery in its application to the manufacture of textile fabrics.

IN consequence of the unsatisfactory working of the nursing department of the infirmary wards of the Hackney Workhouse, the medical officer of the establishment has been directed to frame a special code of rules for the guidance of the paid nurses.

AT the last meeting of the Holborn Guardians it was decided that a uniform fee of 10s. 6d. be paid to all the medical officers of the Union in certifying cases of lunacy. This decision will be communicated to the Middlesex magistrates.

THE next House Dinner of the Medical Club will take place on Thursday, the 27th inst., under the presidency of Sir Galbraith Logan, K.C.B.

THE venerable philosopher who sheds a halo over Chelsea has spoken of the Dublin University Bill as "an amorphous botch out of which nothing endurable can ever be made."

GULSTONIAN LECTURES AT THE ROYAL COLLEGE OF PHYSICIANS.

LECTURE I.

DR. LIVEING commenced by stating that he found it impossible in the three lectures which he should deliver to do more than give a slight sketch of the history, geographical distribution, etiology, and pathology of leprosy. After affirming that the disease was clinically divisible into three chief forms, the macular, the anæsthetic, and the tuberculated, Dr. Liveing referred to the confusion which existed in the use of the terms elephantiasis and lepra by the Greek and Arabian writers, and pointed out that elephantiasis Græcorum was equivalent to lepra Arabum or true leprosy; that elephantiasis Arabum was the same disease as the Barbadoes leg, and that the lepra Græcorum was the psoriasis of moderns. He opined that amongst the Jews and in the account given of leprosy in Leviticus, several distinct diseases were classed under one general name—such, for example, as eczema, psoriasis, scabies, and, possibly, syphilis; or at least these were not distinguished the one from the other in their earliest stages. Some of these maladies were deemed contagious, and the isolation of the lepers was not merely a religious rite but a practical piece of hygiene.

Dr. Liveing next referred to the spread of leprosy in Europe, especially in the middle ages, and particularly to the way in which the seclusion of lepers operated in exterminating the disease. He averred that the disease did not diminish in consequence of the prevention of its spread by contagion, but of the intermarriage of the lepers with the healthy. The horror with which the disease was regarded, and its known hereditary tendency, effectually shut out the lepers from society; so that they died out by degrees. The introduction of leprosy into Western Europe in the middle ages has been attributed to the influence of the Crusades, but the disease was known in Spain, France, and England before the time of the Crusades. There were leper houses in Germany in the 8th century, and in England in William the Conqueror's time. Three things tended to support the idea that leprosy was introduced by the Crusaders in the middle ages. First, the disease rapidly increased about the time of the Crusades, and to those who believed in the contagion of leprosy, this spread appeared to be due to its operation. Secondly, the Crusades gave an impetus to the founding of hospitals. Thirdly, distinguished physicians of the west began to study the disease more and more. These three circumstances contributed to bring the disease into greater public notice, and gave it the appear-

ance, in the eyes of historians, of having been largely introduced into the west.

Dr. Liveing proceeded by the aid of maps to indicate the position of the chief leper asylums in the British isles; from an examination of which it appeared that the majority were found in the east and south coast counties, and the towns on some of the larger rivers, especially the Thames, Severn, and Ouse. At first sight it would appear that the distribution of these lazar-houses affords a pretty fair indication of the relative prevalence of the disease in various parts of the kingdom; but it may be that the provision of so many hospitals was to be explained by the fact that these parts were the chief centres of civilisation at the time, and nearest the continent, the disease not having been in reality more prevalent there.

The treatment of lepers in the middle ages was the next point to which Dr. Liveing referred. He then dealt with the question of the decline of leprosy. The disease did not arrive at its maximum of prevalence in all countries of Europe at the same time. It was most prevalent in France and England towards the end of the thirteenth century, and somewhat later in Germany. It rapidly disappeared about the end of the fourteenth century from Europe, but lingered till the middle of the eighteenth.

The history of leprosy in the middle ages in Europe suggests several interesting questions:—1. How did it become common in Europe? 2. Was it at all contagious? 3. Did the mode of life of people at that time influence its progress? 4. Did the isolation of lepers help to check its extension? In regard to the first query, the records of the twelfth century show that it exhibited a sudden accession of strength, and spread from north to south, and subsided in like order. In its retreat it left behind foci of disease under favouring circumstances—in fact, there was an *epidemic* increase of a disease before *endemic*. With regard to the second query, it would appear that though not contagious, many of the Crusaders acquired the disease in the east, and transmitted it hereditarily at home. With regard to the third question, no reliable answer can be given, for the writers of the middle ages held very absurd notions as to the causes of disease, and all and every kind of food in turn was condemned by one or another. With regard to the fourth question, Dr. Liveing stated his belief that the isolation of lepers tended to check the transmission of the disease hereditarily by preventing marriages with the leprous.

LECTURE II.

In his second lecture Dr. Liveing sketched the geographical distribution of leprosy at the present day in particular countries, in relation to the external circumstances of climate, soil, and the occupations of the inhabitants of those countries or districts, and other points connected with the etiology of the disease.

In speaking of Norway, Dr. Liveing pointed out that during the last thirty years the number of lepers had quadrupled. On the west coast of Norway the people lived upon bad food, both animal and vegetable, bad fish, sour milk, rancid butter, filthy cheese, unwholesome bread, and the like. The corn they used was cut green, and the grain itself was poor and musty. The occupation of those in the leprous districts was that of fishers. In Sweden leprosy was once common; but when the herring shoals left its coast and went to the Bergen shore, leprosy lessened in extent, and coincidently with an increase in agricultural pursuits and cultivation of the land. In Faroe and Iceland similar results have occurred in regard to the disease. On the shores of the Baltic, and in parts of Russia, conditions answering to those, of the Norwegians amongst whom leprosy prevails, are found. In the Mediterranean district leprosy is endemic, especially in Crete. The Cretans and the Norwegians are alike in regard to the character of their diet, the food of the former consisting of bad salt fish, rancid olive oil, bad bread, bad water, and the like; whilst the climate of Crete, unlike that of Norway, is semi-tropical. Dr. Liveing, in passing, remarked that the rigid bye-laws enforced in some parts to secure the exclusion of the lepers in the countries referred to have failed to check the spread of the disease so long as lepers have married; and in all the cases now referred to climate *per se* has had little effect upon the disease.

Dr. Liveing then referred to Africa, where leprosy is to be found on the coasts; to the Cape of Good Hope, where it exists as an imported disease, amongst the imported races, and not amongst the aborigines, and in connexion with a splendid climate; to Brazil, where the disease is rare on the coast, but exists in the interior; to Central America, where the disease is to be found amongst the descendants of the Spanish emigrants, and fish is seldom eaten by the infected; to Mexico, where it exists in the high inland plateaus, and not along the coast; to New Zealand, where the people consume putrid maize or potatoes; to certain islands where the people live upon a fish diet and bad bread, and the inhabitants are fishers and poverty-stricken; and to India, where leprosy is not equally common in all parts or among all castes, but where lepers abound in greater numbers in rural districts, where the disease is more common on the coasts, rare in dry and well-drained and cultivated districts, where it is found that elevation *per se* has little effect on the prevalence of the disease, and where the low caste Hindoos and Mussulmans are most affected. Dr. Liveing's object was to show that leprosy prevailed in countries possessing every variety of climate and people, and that climate *per se* has little effect upon the disease, and especially on its causation.

Dr. Liveing next proceeded to deal with the etiology of leprosy. Of the primary cause nothing was known, and he could only deal with secondary causes, including climate, soil, race, deficient hygiene, diet, hereditary tendency, and contagion. These varied in the degree to which they severally operated. As regards soil, it was evident that the disease exists mostly along seaboards and in marshy districts. India appeared to offer an exception, but still the disease on the whole is more common in that country along the sea coast. Dr. Liveing pointed out that the development of agriculture and drainage operations constituted, as it appeared, the great preventive of leprosy, and these were carried on more in inland parts than on seaboards, which explained, perhaps, the difference in the prevalence of leprosy on sea coasts and in inland parts; hence district, *per se*, had little influence upon the disease. As regards race it was difficult to form an opinion, because other factors came into operation in connexion with that of race, such as mode of life, occupation, and the like. As regards hygiene, it was doubtful if that had any very special influence, but probably bad dwellings, uncleanliness, and bad clothing favoured the development of the disease. As regards diet, it appeared that one of the most common kinds of food taken by the leprous was bad fish, and Dr. Liveing referred to the views of Mr. Hutchinson and others upon this point, but he concluded that the question to determine was not so much whether eating bad fish, *per se*, caused leprosy, but whether some special element in the diet of lepers, of which fish formed a chief part, did not exist to operate as a special cause of leprosy, just as the active principle of Lathyrus sativus produces paraplegia, or ergot ergotism. It is true that people who live in districts where leprosy is common eat much fish, but so do those who live in districts where intermittent is common. Dr. Liveing thought that probably any decomposing food taken constantly and in large amount might cause leprosy, and as decomposing fish is an article consumed largely by those who become leprous, it had been specially credited with causing the disease.

LECTURE III.

In the early part of the third lecture Dr. Liveing continued his examination of the predisposing causes of leprosy. He fully allowed the influence of hereditary peculiarity in the genesis of the disease, as shown by the statistics of Danielssen, Boeck, and others. The disease was mostly confined to certain families where it occurs endemically in small districts, and it exists in an inverse proportion to the degree in which civilisation had influenced the attacked communities; and those were mostly infected who were isolated by special local barriers, by caste, and other similarly operating conditions, among which free intermarriage would of course be most common. Dr. Liveing believed that the hereditary character of the disease was not of the same perfect kind as in syphilis, but it partook rather of the nature of a predisposition needing the operation of external circumstances to cause it to issue in the development of the disease, as in cancer and phthisis. In regard to the question of contagion, Dr. Liveing agreed generally with the conclusions of the Leprosy Committee of the College; but he mentioned in detail certain occurrences in Norway

in which it was supposed that the disease had been conveyed from person to person by the acarus, and referred especially to the case of a family four of the members of which were presumed to be infected in this way; but he concluded that the facts only admitted the inference that four members of one family became lepers in a place where leprosy is endemic. He then stated that there is the strongest ground for the belief that the disease in South America and other districts is an importation, and is spreading amongst the aborigines under conditions which do not admit of the possibility of hereditary transmission having operated as a factor in the production of the spreading disease; and he referred to the facts recently brought to light touching the origin and dissemination of leprosy in Honolulu, though he admitted they required verification. He likewise mentioned several instances in which the disease spread from one member to other members of certain families where there could have been no hereditary transmission; and stated that the point to be solved was this: Do the natural relations of the country alone explain the development of the disease under these circumstances?—for if not the disease must be communicable. But he gave a guarded opinion upon the subject. He, however, inclined to the belief that the disease was not contagious in the ordinary sense of the word, but might be imparted by the imbibition of the excreta of lepers, just as cholera and typhoid are communicated; but, inasmuch as the action of the poison upon the system was very slow, and did not develop the results of its operation for a long while, the connexion between the imbibition of the leprous poison and the outbreak of leprosy was difficult to trace. As regards the influence of sex, Dr. Liveing gave reasons for believing that the sexes were, in reality, about equally attacked by leprosy.

The general conclusions in respect of etiological considerations at which he arrived were that the *vera causa* was unknown; that, amongst secondary causes, diet and hereditary predisposition were the most important; that climate, soil, and race were only slightly influential as factors in the genesis of the disease; and, lastly, that, if not contagious, the disease is capable of being propagated from person to person by the imbibition of the excreta of lepers.

Dr. Liveing next entered into a clinical description of the main features of leprosy in its different varieties and the morbid anatomy, which included a digest of our present state of knowledge on the subject.

Speaking next of the alliances of leprosy, Dr. Liveing declared the latter to be akin in character, clinically, to maladies of the scorbutic class—such as ergotism, scurvy, pellagra, the button scurvy of Ireland, and the disease induced by the Lathyrus,—due to defective or injurious food. He said it was impossible to find another disease more like it in general features and course than pellagra; and he pointed out the points of resemblance, and especially as regards causation. An incidental allusion was made to the question of the cure of the disease, which was pronounced to be unknown; and Dr. Liveing concluded, after emphasising the importance of employing preventive measures if we wished to make any impression upon the disease, by thanking his audience for their attendance and attention.

THE ROYAL COLLEGE OF SURGEONS.

PROFESSOR WILSON'S LECTURES.—Nos. V. & VI.

THE two concluding lectures of the series were devoted to a particular account of Psoriasis, its nature and treatment. Mr. Wilson first entered upon an examination of the exact meaning of the words psoriasis and lepra. He applies the term lepra to the disease which is designated psoriasis by almost all dermatologists. The term psoriasis he believes would be more fitly employed to designate chronic eczema in the squamous stage. Mr. Wilson stated that he could only accept the more common use of the word psoriasis under protest, and shall always say that the lepra of the Greeks is the disease to which the designation psoriasis is now generally applied. The Professor next described in detail the varieties of psoriasis; and then proceeded to indicate the cause of the disease as an "inherited inherent debility" of nutrition, which must be removed by appropriate treatment if a cure is to be effected. Where there was no recuperative power in the organisation, the hopes of cure could only be small. The disease, Mr. Wilson affirmed, was less common amongst the manufacturing classes, who might be regarded as being more hardy and robust as a consequence of the invigorating character of their work. In the treatment of lepra, Mr. Wilson said, it was necessary to secure three objects:—(1) The neutralisation of the predisposition to the disease, and to alter the diathesis of the patient; (2) to remove the local effects of the disease; and (3) to aim at fortifying the constitution.

The first point was to be gained by securing to the patient the advantage of good air and diet, of bathing and exercise. As regards diet, Mr. Wilson advised three meals, each equal in nutritive capacity, in the day.

For the removal of the eruption soap-and-water might be freely used, so as to remove the scales and stimulate the congested skin to healthy action. A soap-and-water bath was often efficacious. In certain situations—about the limbs and trunk, for instance—the use of water-dressing might be had recourse to. The wet dressings could be worn at night and repeated daily till the scales ceased to form. Soaking in the hip or long bath might be employed for a like purpose. In an institution perfectly equipped with bath appliances the scales would soon be got rid of, but in private practice it was impossible to arrive at the same result all at once. If after a few days a patient returned to Mr. Wilson with scales still adherent, he was told that he had neglected to carry out the directions, and was advised "to keep down the scales by every possible means." But the wet-packing was not applicable to all cases of psoriasis: it sometimes irritated the parts. In some cases, where the scaliness was very excessive, pumice-stone might be used to remove it. When the scales are removed, the patches should be thoroughly rubbed with some form of tar, by the aid of a piece of flannel. The amount of tar required is small, but it should be inficted to procure its absorption. Mr. Wilson believes that the tar has not only action upon the skin, but a general action upon the system. Three kinds of tar were mentioned: the Pix liquida, juniper tar, and Barbadoes tar, and Mr. Wilson declared their action to be similar, the least offensive for internal administration being the last named. The tar might be used locally in an undiluted form, or mixed with benzoated lard, or in the form of unguentum picis, and with potash where it is desirable to soften up indurated scaly patches. Mr. Wilson stated that the eruption yields most readily to treatment in the scalp and face. He did not specify the host of other remedies in vogue, save the unguentum hydrargyri ammoniatum. In regard to inflammatory leprosy, he believes the best local application is the benzoated zinc ointment.

The third indication was to fortify the constitution by attention to ordinary hygienic and dietetic principles, and then to administer arsenic—the specific for the disease which acted as a nutritive tonic. Mr. Wilson mentioned that copaiba had failed in his hands to prove efficacious. Bichloride of mercury was also useful in some cases. In administering arsenic Mr. Wilson remarked that the dose of the vehicle in which the arsenic is given should be as small and as pleasant as possible, and the medicine should be given with or at the end of a meal. After mentioning the poisonous effects of arsenic, and declaring that he had never seen any ill-effects, but only the best results, from the use of arsenic, Mr. Wilson concluded his course with an expression of thanks to his audience for the attention with which they had heard him.

THE CONJOINT EXAMINING BOARD FOR ENGLAND.

THE Committee of Reference, after full consideration of the "Scheme" approved by the co-operating medical authorities, have agreed to a first report, of which the following is an abstract. It is proposed—

1. That the number of examiners shall be—8 in Anatomy and Physiology, 4 in Chemistry, 4 in Materia Medica, Medical Botany, and Pharmacy, 8 in Medicine, 8 in Surgery, and 6 in Midwifery—total 38.

2. That no examiners in Forensic Medicine be appointed at present, but that questions on this subject be set by the examiners in Chemistry, Materia Medica, and Medicine.

3. That the period at which the nomination of examiners will take place, and other particulars, be annually made public by advertisement, and that the Committee meet for the consideration of the qualifications of candidates for examinerships, prior to the meeting for the nomination of examiners.

4. That a list of nominated examiners for appointment by the co-operating authorities be sent to the latter directly after the nomination.

5. That there be two examinations, partly written, partly oral, and partly practical.

6. That no candidate be examined by a teacher of his own school.

7, 8. That not less than two examiners be present at the written examinations; and the oral and practical examinations be conducted in the presence of two examiners.

9, 10. The subjects of the first examination to be Chemistry, Materia Medica, and Anatomy and Physiology; and candidates to be admitted to the first or second subject, or both, any time within a year after registration as a student, but after that time to be required to pass in all the three subjects at one time.

11. The subjects of the pass examination to be the practice of Medicine, including Medical Anatomy and Pathology; Surgery, with Surgical Anatomy and Pathology; and Midwifery and Diseases of Women. The candidate to pass in these three subjects at one time.

12, 13, 14. The Committee of Reference to act as "visitors of examinations," three to be appointed for each examination, one or more of whom are to be present during at least a part of each division of the examination; a visitors'-book to be provided in which the visitor may enter any remarks he may like to make.

15, 16, 17, 18. That just before the examinations the examiners are to meet and agree to the questions to be set, which are to be printed or lithographed the day previous to, or on the morning of, the examinations, in the presence of some official, who is to keep them for deliverance to the examiners; the questions in each paper to be six, and three hours to be allowed for answering them in the written examination.

19, 20, 21, 22, 23, 24. Application to be made to hold the written examinations in the University of London; the oral in Chemistry, Materia Medica, &c., at the College of Physicians; and that in Anatomy, &c., at the College of Surgeons. The oral and practical in Chemistry to occupy one hour, and in a laboratory; those on the other subjects twenty minutes each, exclusive of the time employed in naming specimens in writing; those in Medicine and Surgery not less than forty minutes each; and in Midwifery thirty minutes.

25, 26. The results of examinations to be made known by the examiners as speedily as possible.

27, 28. A report of the Committee to be presented to each co-operating medical authority annually, and regulations of the conjoint examination to be published at the earliest convenient time.

29, 30. The first conjoint examination to be held as soon after October 1st, 1873, as possible; and all commencing their studies after the publication of regulations be compelled to pass the examinations.

31, 32. These sections refer to the retirement of the members of the Committee of Reference and to financial considerations about which the Committee withhold their views.

This report is signed by representatives of all the English co-operating bodies save the University of London.

LONDON INTERNATIONAL EXHIBITION, 1873.

THE fifth meeting of the Committee on Surgical Instruments and Appliances took place on the 18th inst., at the Royal Commission Offices, Gore Lodge. The following members were present:—Mr. Cæsar H. Hawkins, F.R.S. (in the chair); Mr. W. White Cooper; Dr. H. J. Domville, C.B.; Dr. Arthur Farre, F.R.S.; Dr. G. T. Gream; Mr. J. Hilton, F.R.S.; Mr. J. Hinton; Mr. R. Liebreich; Mr. J. Luke, F.R.S.; Dr. A. E. Mackay; Mr. J. Marshall, F.R.S.; Dr. W. S. Playfair; Mr. E. Saunders; and Mr. E. Sercombe. The Committee examined the instruments which had already arrived, and accepted the majority of those submitted for approval. They formed sub-committees for the purpose of examining the different classes of the instruments and appliances, and agreed that they should meet weekly until the exhibition should open. It is therefore hoped that all the arrangements will be completed before the 8th April, so that a clear week for private views and the visits of reporters may be allowed before Easter Monday, when the collection will be thrown open to the public.

Correspondence.

"Audi alteram partem."

OFFICERS OF HEALTH, THEIR APPOINTMENTS AND SALARIES.

To the Editor of THE LANCET.

SIR,—There are some remarks in your leading article on officers of health, their appointments and salaries, which I think require some explanation, for as they stand unexplained they certainly reflect no credit upon myself as medical officer of Maryport; such remarks as "they (the local authorities) have, as a rule, got their man at the cheapest possible expenditure. There would be something farcical were the subject not so serious in the Barnstaple rural authority paying its district medical officer one guinea for each report, and one shilling per mile (one way) for travelling expenses, and in the Consett and Maryport Urban Authorities, the one giving its medical officer of health one guinea a day when his services are required, the other paying its medical officer of health according to circumstances." I know nothing of what explanation the medical officers of other districts may give; my remarks apply to Maryport only, and I do think that if the writer of the article in question had made such inquiries as he might have done he would not have included Maryport under such damaging remarks, for I certainly cannot regard his language as any less when applied to members of a learned profession. I undertook the office at the solicitation of the trustees and upon my own terms—viz., that I was to make a thorough inspection of the town, and give them in a proper report of its present state and requirements, as far as sanitary matters were concerned. The trustees would have given me a fixed salary, and appointed me for a longer period than one year, but I declined to take it upon any other terms than those I proposed, because neither they nor I could possibly know the amount of work I should have for the first year, and therefore it was impossible for either them or myself to fix the proper amount; besides, I am not a tradesman with certain wares to sell at a fixed price. Professional services really cannot be valued by money, and if the trustees thought I could not be trusted to put my own value on such services they would not have trusted me with their own lives as they have done for the last twenty-seven years. I think, then, you will see that the position I assume in this matter does not merit the opprobrium the words I have quoted would imply. It is not difficult to understand why the trustees wished to secure my services at the present time. I have twice before, during times of cholera, inspected and reported upon the state of the town; twice in my time (as medical officer of the Maryport district of the Cockermouth Union) has the Poor-law Board required me to perform the duties of sanitary officer during cholera; but when I applied for remuneration I was informed they could not grant me anything without the consent of the guardians. I need not tell you the result of my application in that quarter. I have always taken an active interest in the health of the town, and have written many letters to the different authorities on this subject. I think then that you need not wonder that the trustees naturally enough looked to me for advice, concluding that the services of one who had spent so much time in the practice of his profession was more likely to be of value to them than that of some tyro fresh from school. I hope, in simple justice to me, you will insert this communication, in order

that my professional brethren who do not know me may understand that I am not the man "got at the cheapest possible expenditure," and "according to circumstances" which the trustees may dictate, or take such fee as they choose to give me.

I remain, Sir, your obedient servant,

JOSEPH PEARSON, M.D.,
Medical Officer of Health of the town and Harbour of Maryport.

Maryport, March 17th, 1873.

*** We regret unwittingly to have given Dr. Pearson any cause of offence, and we are glad to hear that his agreement as to remuneration with the Maryport local authority is not "according to services," as that term is usually employed, but according to a proper estimate to be arrived at after Dr. Pearson has satisfied himself of the amount of work to be done. It reflects no little credit on the Maryport trustees that they should have been guided by Dr. Pearson's opinion in this matter. The phrase "according to circumstances," reported to us evidently represented inaccurately the nature of the agreement between Dr. Pearson and the trustees.—ED. L.

ST. THOMAS'S HOSPITAL.

To the Editor of THE LANCET.

SIR,—Referring to a statement in your paper of last week, that "a patient is refused admission at this hospital if he lives in the parish of Lambeth," we think it right, as the officers to whom the duty of admitting patients has been entrusted, to state that you have been misinformed. No patient has ever been refused admission on such grounds; but, as might be expected, a very large proportion of those admitted are inhabitants of Lambeth parish.

We think it due to the authorities of this hospital that this correction should be placed in as prominent a position in your columns as that occupied by the statement above mentioned.

We are, Sir, yours obediently,

GEORGE H. EVANS,
Resident Assistant-Physician.
W. W. WAGSTAFFE,
Resident Assistant-Surgeon.

March 18th, 1873.

THE SANITARIUM OF SOUTH AFRICA.

(*From a Lay Correspondent.*)

No. II.

IN my last letter I gave a slight sketch of the geography of part of this country. I now propose to describe the seasons, and to give some details as to the country near the sea, and in the lowest part of the imaginary line I drew across the colony in my last letter.

Of course, so far as heat and cold are concerned, the seasons here are the very opposite of the European seasons. January is about the hottest, and July the coldest month; and this holds good over the whole colony. But as regards wet and dry seasons, there is a vast difference in different parts of the country. The wet season in what is here called the "upper country"—that is, the country near Cape Town, and reaching as far as the Hex River Mountains (which, as far as actual height is concerned, is the lower country),—is the winter season, while the summer is the wet season in the eastern parts of the colony, and in the higher ground generally.

This is to be accounted for in the following way. The wet in the "upper country" is caused by rains which come in from the sea. These rains always come in the winter months, and are very severe, the more so the nearer the sea. In Cape Town and its neighbourhood the proportion of wet days to fine in the winter season is about three to one. These rains begin about May, and end towards the close of August or the beginning of September. They extend over the whole country as far as the Hex River Mountains, though they are not quite so severe in the Worcester and Robertson districts as they are in Cape Town.

The Hex River Mountains form a barrier beyond which these rains do not extend, and on the other side of these mountains we come at once into a different order of things. Here and in the rest of the high ground the winter is the dry season, and the country depends chiefly for water on the thunderstorms which take place in the summer months. These thunderstorms are most terrific, and I shall have something to say upon them on another occasion. In the meantime it is important to bear in mind that in the "upper country" the winter season—i.e., the months of May, June, July, and August—is the wet season, and the summer the dry season; while in the really high ground the winter is the dry, and the summer the wet, season.

I wish now to give some description of the "upper country," beginning with Cape Town. Cape Town itself is a town composed of ugly and mean-looking buildings, placed in what I suppose to be one of the finest situations in the world. No doubt the first view of Table Mountain would give most Europeans at all accustomed to mountain scenery a sensation of disappointment; but when one has had time to study and realise all the features of the grand old mountain, I can scarcely fancy anyone being otherwise than delighted with it. As, however, the object of these letters is not to describe scenery, I must not dwell upon this point.

There is plenty of very good accommodation to be obtained in Cape Town. The hotels, of which there are several, are very fair, and there are many excellent boarding-houses (the only form of lodgings known in the colony), at which accommodation can be obtained at seven or eight guineas a month.

For an invalid the great recommendation of Cape Town is that the best medical attendance to be obtained in the colony is to be had there, as also all the little delicacies which invalids require; but on the whole I cannot recommend it as a residence for invalids. In the first place, Cape Town is on the seaside, and is, therefore, necessarily low; and, as in all seaside places, the air is always more or less damp. Then in summer time the streets are very hot, and the air oppressive, and, owing to the *quasi* fashionable tone of the place, and the mimicry by a certain portion of the inhabitants of European manners and dress, it is difficult to adopt a light and cool costume without at the same time making oneself the object of remark. In the winter time Cape Town is, as I have already said, very wet and rainy. In summer time, too, Cape Town is rendered very unpleasant by the constant occurrence of "south-easters." These winds are excellent for the general sanitary health of the town, and are popularly known as the "Cape Town doctor." They cleanse the town of bad smells, and prevent cholera and fever, but they are very bad for consumptive subjects, and would certainly confine patients of this description to the house for days together. No one who has not experienced them can have any idea of the force of these winds. It is often as much as a strong man can do to keep his feet, and the inhabitants are driven to take refuge in cabs from the fury of the gales. Sometimes these winds last for days at a time, and then they become an intolerable nuisance, even to a perfectly healthy person. After a day or two all the loose dust in the place is blown away, and then the wind catches all the small pebbles, and blows them into the faces of all who venture out of doors, in a way that is really most painful. There is another point connected with Cape Town which for invalids must not be overlooked. The drainage of the town is most defective. Owing to these south-east winds, up to the present time there has been a wonderful immunity from epidemics, choleraic or otherwise; but this cannot last for ever, and unless measures are taken by the authorities, disease must sooner or later make its appearance. Another point is that, in building many of the houses, leaden cisterns have been used. The water of the town is remarkably soft, and so contracts much of the poisonous qualities inherent in lead, and many cases of lead-poisoning have occurred. Against both these evils the late Dr. Abercrombie protested to the utmost of his power, but I regret to say that though much has been done in the latter instance by private persons, very little has been done by the public authorities to remedy the former evil.

The suburbs of Cape Town—Wynberg, Rondebosch, and Constantia—are much more suitable as places of residence for invalids than Cape Town. They are situate on the other side of the spur of table-mountain, which forms an

effectual shelter to them from the trying south-easters. They abound in trees, which in hot weather give most delightful shade, and are altogether most enjoyable as places of residence for the summer. Wynberg is about nine miles from Cape Town, and is on the line of the railway. There are several good boarding-houses, where accommodation may be obtained, and of course medical assistance is within easy reach. The great objection to these places is that in winter they are very damp. They are so shut in with trees that the heavy rains which visit Cape Town act with double force upon them, and no invalid should think of spending more than the middle of summer in them. The objection of being too low and near the sea holds good against them at all times, if the great requisite for consumptives be a high and dry climate.

Of the villages between Cape Town and the Drachenstein range I need not say much. They are all subject to the same objection of being too low, and in winter they are very damp. Moreover, Wellington and the Paal have the reputation of being hotter than any other villages in the upper country, and I can testify that the heat in them on a summer's day is something intense.

I shall hope in my next letter to give some account of the country on the other side of the Drachenstein mountains.

Cape of Good Hope, September, 1872.

Obituary.

EDWARD LATHAM ORMEROD, M.D. CANTAB., F.R.S.

A PHYSICIAN of unusual scientific accomplishment and practical skill, of high moral worth as a man, and of great public spirit as a citizen, has just been lost to Brighton and to the profession by the death of Dr. Ormerod. The blow has not been unexpected. For some time past he had suffered from prostatic disease, which set up vesical and renal mischief, terminating in constitutional disturbance of the most exhausting kind. He had the best advice, local and metropolitan; but within the last few weeks the issue was never doubtful. He expired on the 17th inst., at the age, we believe, of fifty-four.

Dr. Ormerod came of an excellent stock, which had on more than one occasion reinforced the ranks of the profession by able recruits. Among these we may mention his grandfather, who was President of the Royal College of Physicians, and his uncle, Dr. Peter Mere Latham, well known in connexion with St. Bartholomew's Hospital, and, as Dr. Stokes, of Dublin, has repeatedly pointed out, a model in medical style. The nephew had inherited the latter quality in no small measure; and what nature had conferred, education enhanced. His schoolboy days were spent at Rugby, where he took a high place among his fellows. From that foundation he proceeded to Cambridge, and graduated in Arts, after which he prosecuted his professional studies at Bartholomew's, where his proficiency was such that he was elected Demonstrator of Morbid Anatomy to the hospital. Throughout his whole career as a student he was remarkable for his intense application to work, and his close observation of all phenomena bearing, however indirectly, on the practitioner's art. In 1850 he was elected a Fellow of the Royal College of Physicians, and in the following year he took the *summi in medicina honores* at his Alma Mater. Shortly before this the severity of his studies began to tell on a constitution by no means robust, and, in accordance at once with his friends' advice and his own opinion, he selected Brighton as the scene of his labours. In 1850 he was elected Physician to the Brighton and Hove Dispensary, and some three years thereafter he obtained the appointment of Physician to the Sussex County Hospital—a post which he continued to fill with punctuality and efficiency to the day of his death. Pathology was, if any, the department of medicine which most deeply engaged his attention; it was his first love at St. Bartholomew's when in 1848 he published his "Clinical Observations on Continued Fever," and it was his last when to the reports of that hospital for 1868 he contributed a most valuable paper on fatty degeneration. On that morbid condition as it affects the heart he wrote with accuracy of observation and freshness of view in 1849, and two years thereafter he delivered with much acceptance the Gulstonian lectures on the valvular diseases of that organ. At Brighton he did much to enhance the resources of the museum attached to the hospital, which, thanks to him, is richer in pathological specimens than many provincial schools; while he ardently supported the Brighton Medico-Chirurgical Society, whose library of medical works is at once comprehensive and choice. Just before the commencement of his fatal illness a few weeks ago he gave assistance in arranging the "natural history section" of the town museum.

Dr. Ormerod, perhaps from temperament, more probably from delicate health, mixed but little in general society. With all, however, who came in contact with him he was highly popular, not only for his gentlemanly manners and his cultivated conversation, but for his moral force and purity of character. By his professional brethren he was greatly esteemed, possessing, as he did, their confidence to a degree which made him by far the most widely-employed consultee in the town and neighbourhood. Few physicians have been able to combine in so happy a measure the most rigid standard of medical proficiency with the elegant graces of the scholar and the scientific versatility of the savant. In proof of his possession of the latter quality, we may refer to his laborious and interesting "Natural History of the British Social Wasps," a department of nature-science in curious contrast with his own mild and generous disposition.

And so a career of great value to the community and most honourable to the profession has been prematurely closed. His sun has indeed gone down "while it was yet day." Not only the widow and the young children whom he has left will feel the poignancy of the bereavment, but a large contingent of professional friends and admirers will miss from its high position in the ranks the refined and masculine presence of Edward Latham Ormerod.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following Members have been elected Fellows of the College:—

Damant, Thos. Wm., Fakenham, Norfolk; diplom. memb. 1842.
Davies, Wm. Joseph, Newport, Mon.: diplom. memb, 1839.
Mathias, John E., Southport, Lancashire; diplom. memb. 1838.
Morris, John, Hereford; diplom. memb. 1837.
Rendle, William, Forest-hill; diplom. memb. 1839.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on March 13th:—

Conolly, Stephen Fullom, Bradford.
Cookson, Hugh Alexander, Stowmarket.
Grindrod, Charles Frederick, Malvern.
Palmer, Frederick John Morton, Old Kent-road.
Shapley, Harry Thomas, Torquay.
Todd, William Hurford, Whitechapel.

As Assistants in Compounding and Dispensing Medicines:—

Adams, Richard, Market Drayton.
Ekins, Arthur Edward, Maldon, Essex.

The following gentleman also on the same day passed his Primary Professional Examination:—

Johnstone, C. R., St. Mary's Hospital.

COLLEGE OF PHYSICIANS, IRELAND.—At examinations recently held the following gentlemen obtained the licences in Medicine and Midwifery:—

MEDICINE.—William Creagh Downing, Robert Smyth Eyre, Edw. Shawe Grattan, James Richard Mac Inerney.
MIDWIFERY.—William Creagh Downing, John Lloyd Ellis, Edward Shawe Grattan, James Richard Mac Inerney.

DR. BENCE JONES.—At a meeting of the Managers of the Royal Institution, held on Monday, March 10th, 1873, specially to consider a letter from Dr. Bence Jones, resigning his office as Honorary Secretary, the following resolution was unanimously agreed to:—"The Board of Managers receive with deep regret the letter of Dr. Bence Jones containing his resignation of the office of Secretary to the Royal Institution. . . . . They, however, trust that the aid of Dr. Bence Jones may not be altogether lost to the Institution, but that he will still afford to it the benefit of his counsels and experience. They hope that he may in future occupy a seat

at the Board of Management; and further, that he will remain associated with the Institution, by doing it the favour of accepting the position of Honorary Assistant-Secretary. They believe that the distinguished success which has attended Dr. Bence Jones in his career as Secretary will always be his worthiest reward. It rests with them to tender to Dr. Bence Jones the expression of their strong personal regard, and of their warmest gratitude for his invaluable services to the Royal Institution." It having been ascertained that the form of testimonial most agreeable to Dr. Bence Jones would be a bust of himself to be placed in the Royal Institution, the Managers resolved to open a subscription list among the members of the Royal Institution for the purpose.

THE rural sanitary authorities of the Belper Union have determined to appoint two medical officers of health, each having a salary of £150 a year.

BEQUESTS, &c., TO MEDICAL CHARITIES. — The London Hospital has received a fifth £1000 from "E. F. H." The Westminster Hospital has received a third £1000 from "Z. D. W." The Metropolitan Free Hospital has received another £1000 from "E. G." The Charing-cross Hospital has received another £1000 from "W. S. N." Mr. Samuel Moses Samuel, of Park-crescent, Regent's-park, bequeathed £1000 to the London Hospital, and £250 each to the Jews' Hospital (Mile End), the Jews' Lying-in Charity (Mrs. Rothschild's), the Royal Free Hospital (Gray's-inn-road), the Royal Hospital for Incurables (Putney), the City of London Truss Society, and University College Hospital. Mrs. Becconsall bequeathed £1000 to the Preston Infirmary. Mr. George A. Clark, of Paisley, bequeathed £1000 to the Paisley Infirmary. "A Lady" has given £500 to St. Mary's Hospital, Paddington.

Medical Appointments.

ANDERSON, Prof. A. G., of Queen's College, Birmingham, has been appointed Public Analyst for the Parish of St. Martin-in-the-Fields.

BARFOOT, G. R., M.B., M.R.C.S.E., has been appointed House-Physician to the Leeds General Infirmary.

BAXTER, W., L.F.P. & S. Glas., L.M., has been appointed Medical Officer to the Portland Iron Works and Collieries, Hurlford, Kilmarnock, vice Maclatchy, deceased.

BRICKWELL, J., M.R.C.S.E., has been appointed Medical Officer of Health for the Stoke District of the Eton Rural Sanitary District: £10 per annum.

BUCHANAN, J. H., M.D., L.F.P. & S. Glas., L.M., has been appointed Medical Officer for the Borrowby District of the Northallerton Union, Yorkshire, vice Rust, deceased.

BURR, W. U., M.R.C.S.E., has been appointed Medical Officer of Health for the Upton District of the Eton Rural Sanitary District: £3 15s. per annum.

BUCK, J. R., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer for District No. 2 of the Worcester Union, vice Jeffery, resigned.

BUTLER, F. W., M.R.C.S.E., has been appointed Resident House-Surgeon to the Brighton and Hove Dispensary, vice E. A. Burgess, M.R.C.S.E., resigned.

CAMERON, Prof. C. A., has been appointed Chemist to the Royal Agricultural Society, Ireland, vice Apjohn, resigned.

CAMPBELL, W., M.B., has been appointed Medical Assistant to the Royal Infirmary, Dundee.

CARTER, T., L.R.C.P.L., M.R.C.S.E., has been appointed Medical Officer of Health for the Richmond, Yorkshire, Rural Sanitary District.

CLAPCOTT, J. J., M.R.C.S.E., has been appointed Medical Officer of Health for District No. 4 of the Cerne Rural Sanitary District.

DUNNAGE, A. B., M.R.C.S.E., has been appointed House-Surgeon to the Leeds General Infirmary.

EVENS, J., L.R.C.P.L., has been appointed Medical Officer of Health for the Western District of the Cerne Rural Sanitary District.

FIELDING, T., M.D., has been appointed Medical Officer of Health for District No. 3 of the Cerne Rural Sanitary District.

GOOCH, J. W., M.R.C.S.E., has been appointed Medical Officer of Health for the Eton District of the Eton Rural Sanitary District: £11 per annum.

HACON, W. E., L.R.C.P.L., M.R.C.S.E., has been appointed Assistant Medical Officer for the Idiot Branch of the Warwick County Lunatic Asylum, vice C. H. Gibson, L.R.C.P.Ed., L.R.C.S.Ed. M.R.C.S.E., resigned.

HIBBINS, G. M., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed House-Surgeon to the Teignmouth, Dawlish, and Newton Infirmary.

HORNPALL, J. S., L.K.Q.C.P.I., M.R.C.S.E., has been appointed Medical Officer for the Sowerby District of the Halifax Union, vice Turney, deceased.

JONES, M., L.R.C.P.L., M.R.C.S.E., has been appointed Medical Officer of Health for the Aberystwith Rural and Urban Sanitary Districts combined.

KENNEDY, E., M.R.C.S.E., has been appointed Medical Officer of Health for the Gorton Urban Sanitary District: £20 per annum.

KING, E. S., M.D., M.R.C.P.L., M.R.C.S.E., has been appointed Medical Officer of Health for the Ilfracombe Urban Sanitary District: £40 per annum.

LAWSON, H., M.D., M.R.C.P.Ed., has been reappointed an Assistant-Physician to St. Mary's Hospital, Paddington.

LLOYD, H. J., L.R.C.P.Ed., L.F.P. & S. Glas., has been appointed Medical Officer of Health for the Barmouth Urban Sanitary District: £10 per annum.

M'ENERY, W., L.R.C.S.I., has been appointed Medical Officer of Health for the Eastern District of the Cerne Rural Sanitary District.

MAC LACHLAN, W., M.D., has been appointed Parochial Medical Officer for Dalmellington, Ayrshire, vice Allan.

MACNAMARA, G. H., M.R.C.S.E., has been appointed Medical Officer of Health for the Denham District of the Eton Rural Sanitary District: £7 10s. per annum.

MANLEY, J., M.R.C.S.E., has been appointed Medical Officer of Health for the West Bromwich Urban Sanitary District: £50 per annum.

MASTERMAN, G. F., M.R.C.S.E., has been appointed Medical Officer of Health for the Burnham District of the Eton Rural Sanitary District: £22 10s. per annum.

NOWELL, J., M.R.C.S.E., has been appointed Medical Officer of Health for the Hunslet Rural Sanitary District: £60 per annum.

PEREGRINE, H. L., M.R.C.S.E., has been appointed House-Surgeon to the Victoria Hospital for Sick Children, Chelsea, vice Geo. Owen Risdon, M.R.C.S.E. resigned.

PROVIS, W., M.R.C.S.E., L.R.C.P.Ed., has been appointed Medical Officer of Health for the Mere Union, Wilts: £45 per annum.

RICE, Dr., has been appointed Medical Officer, Public Vaccinator, and Registrar of Births &c., for the Powerscourt Dispensary District of the Rathdown Union.

ROBSON, F. A. H., M.D., F.R.C.S.E., has been appointed Medical Officer of Health for the Iver District of the Eton Rural Sanitary District: £16 10s. per annum.

SINCLAIR, R., M.B., C.M., has been appointed Resident Medical Superintendent of the Royal Infirmary, Dundee.

SMITH, H. S., F.R.C.S.E., has been reappointed a Surgeon to St. Mary's Hospital, Paddington.

SMITH, J. W. F., M.D., has been appointed an Examiner in Medicine, University of Aberdeen, vice Nicol, deceased.

SMITH, T., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer for District No. 2 of the Hunslet Union, Yorkshire, vice Jenkins, deceased.

SOUTHEY, A. J., M.R.C.S.E., has been appointed Medical Officer of Health for the Colnbrook District of the Eton Rural Sanitary District: £10 per annum.

SUTTON, J. R. H., L.R.C.S.I., L.K.Q.C.P.I., has been appointed Medical Officer, Public Vaccinator, and Registrar of Births &c., for the Glancullen Division of the Dundrum and Glancullen Dispensary District of the Rathdown Union, vice Kemmis.

TARBERY, G. W., M.R.C.S.E., has been appointed Medical Officer of Health for the Penryn Urban Sanitary District: £30 per annum.

WADD, F. J., M.B., C.M., M.R.C.S.E., has been appointed Medical Officer of Health for the Hedgerley District of the Eton Rural Sanitary District: £5 per annum.

WARD, W. A., M.R.C.S.E., has been appointed House-Surgeon to the Metropolitan Free Hospital, Devonshire-square.

WHYTE, G., M.D., has been appointed Medical Officer to the Elgin County Prison, vice Robb, deceased.

WILLIAMS, W. H., M.R.C.S.E., has been appointed Resident Medical Officer to the Rossall School, Fleetwood, vice John T. Williams, M.R.C.S.E., resigned.

WOODWARD, M., M.R.C.S.E., has been reappointed Medical Officer for the Fladbury District of the Pershore Union, Worcestershire.

Births, Marriages, and Deaths.

BIRTHS.

BRAITHWAITE.—On the 18th inst., at Leighton Buzzard, the wife of Harrison Braithwaite, F.R.C.S.Ed., of a daughter.

HAMILTON.—On the 18th inst., at Henry-square, Ashton-under-Lyne, Lancashire, the wife of Alexander Hamilton, L.R.C.P.Ed., L.R.C.S.Ed., of a son.

MUIL.—On the 12th inst., at Kirby-Moorside, Yorkshire, the wife of Wm. Muil, M.B., of a son (prematurely).

RICHARDSON.—On the 10th inst., at Rochdale, W. E. Richardson, M.R.C.S.E., of a son.

SMITH.—On the 16th inst., at William-street, Regent's-park, the wife of Walter Smith, L.R.C.P.Ed., of a son.

MARRIAGES.

ATKINSON—MASON.—On the 13th inst., at St. Leonard's, Deal, Charles S. A. Atkinson, M.R.C.S.E., of Ashford, Kent, to Fanny, youngest daughter of the late George Mason, Surgeon, of Deal.

HUNTER—GLEN.—On the 18th inst., at Linlithgow, George Hunter, M.D., F.R.C.S., to Agnes, only daughter of Robert Riddock Glen, Esq.

DEATHS.

BLACKLOCK.—At Madras, Dr. A. Blacklock, Deputy Inspector-General of Hospitals.

BROADBENT.—On the 17th inst., at South Helton, Co. Durham (from apoplexy), Mary Eliza, the wife of Samuel Winn Broadbent, M.R.C.S.E., aged 40.

BUDD.—On the 11th inst., Dr. Budd, of Plymouth, late of Devonport, aged 62.

COLLES.—On the 8th ult., at Dalnapur, J. A. P. Colles, M.D., Officiating Professor of Descriptive and Surgical Anatomy, Medical College, Calcutta, Surgeon 4th Sikh Light Infantry, aged 38.

DAY.—On the 13th inst., J. C. Day, M.R.C.S.E., of Robert-street, Hampstead-road.

DIX.—On the 9th inst., R. Dix, M.R.C.S.E., of Long Buckby, aged 78.

GARMAN.—On the 12th inst., at Roman-road, Bow, Cornelius Edwin Garman, sen., aged 65.

HOPGOOD.—On the 10th ult., Hannah, the wife of Thomas Hopgood, M.R.C.S.E., of Chipping Norton, Oxon.

MUNRO.—On the 15th inst., at Weston House, Cupar, A. D. N. Munro, M.D. Friends omitted will please accept this intimation.

WILKINSON.—On the 6th inst., J. S. Wilkinson, M.R.C.S.E., of New Broad-street, aged 71.

Notes, Short Comments, and Answers to Correspondents.

THE DEATH-RATE IN INDIA.

MR. GLADSTONE remarked in his late defence of the Irish University Bill that he agreed with some authority when he said arithmetic ought to have been placed in the list of disputable subjects. An article appeared in a military contemporary, on the occasion of the late debate in the House of Commons on Colonel Barttelot's motion, which seemed to us at the time to contain some curious statistics and reasoning. For example, it was stated that "authentic returns have year after year shown us that the death-rate in the army of India has averaged at least five battalions a year." We should be glad to know what was the strength of the writer's battalions; for on turning to the Medical Department Blue-books we find that the deaths for ten years, from 1861 to 1870 inclusive, are recorded as 15,932, or 1590 annually, and this number includes the deaths of invalids on the passage home or after arrival at Netley. And, further on, it is repeated in the same article, that we lose under a system of long service in India about 5000 soldiers a year. As we lose annually by death only 1590, including the deaths of invalids, it would, we think, bother even the Editor to show how we could save 5000 lives, "if we chose, every year." In another part of the article a certain battalion is alluded to as having returned to England with only 77 men of those it had embarked for India still alive. It is not surely meant by this that all the remainder died in India. If so, how are the invalids, time-expired men, and discharges to be accounted for? There are several other debateable points in the article to which we are referring that we need not further discuss. The writer has probably availed himself of Mr. Disraeli's aphorism, "that there is, as a general rule, no waste of time in life like that of making explanations." We would not be understood, however, to express doubts about the lamentably high death and invaliding ratio among soldiers serving in India; but the facts are sufficiently strong to stand in no need of any support from statistics "falsely so called."

T. F.—We regret that we do not agree with our correspondent's views.

PARISH DOCTORS AND RATEPAYERS.

To the Editor of THE LANCET.

SIR,—In your issue of the 8th instant there appear, under the above heading, some remarks which, were it not for the consideration that the high position of your journal gives them, would otherwise be beneath notice. I feel assured that you have been misled in the matter; for to anyone conversant with the circumstances of parishes in the West Highlands such comments could only be accounted for on the ground of gross ignorance or malevolent misrepresentation. I trust, therefore, that you will have the justice to publish the following remarks.

In many Highland parishes the circumstances of the great majority of the ratepayers and other inhabitants are so straitened that, to procure the services of a respectable medical man, the ratepayers guarantee a salary much larger than—in many cases quadruple of—what is necessary in comparatively rich parishes. It must be obvious to anyone who gives the matter half a thought that in such cases the large guarantee is given on account of the inhabitants generally, and not of the paupers only, and that it is given in lieu of what a doctor might earn by ordinary practice in a wealthier community. In the parish of Loch Carron, which is poor, the fees for medical attendance on paupers would not exceed £30 or £35 per annum; but the ratepayers assess themselves to the extent of £115 on account of a medical man, whose salary is supplemented by fully as large an amount by liberal gratuities from some of the heritors, and by special charges, perquisites, &c. Moreover, Dr. Tulloch's predecessors in the parish can testify that when medical attendance was required in families comparatively well to do, it was invariably highly appreciated and substantially acknowledged. This arrangement, made many years ago by former members of the Parochial Board, was found to work very well until after the appointment of Dr. Tulloch (whose services were suddenly lost to the parish in May last, after two years' employment). As his case with Chisholm has been settled in Court, it would be out of place to pass any remarks upon it further than to say that the report in the *Inverness Courier* was extremely meagre; that neither the evidence nor the grounds of the decision were stated in it; and that the case being a "small debt" one, there was no appeal. Dr. Tulloch well knew the conditions on which his predecessors acted, and accepted the appointment on these conditions, in proof of which I quote the following extract from a letter addressed by him to a member of the Parochial Board:—"I have distinctly stated to ratepayers that I never would charge parishioners for my attendance, and I reiterate the same statement to you. I have always adhered to the 'use and wont' of the parish, and will do so while here."

In conclusion, permit me to express my regret that a journal of such high standing as THE LANCET should inadvertently be the medium of disseminating such misrepresentation as I complain of. Yours, &c.,

Loch Carron, March 17th, 1873. VERITAS.

*** We are not yet convinced of the propriety of making the parishioners parish patients.—ED. L.

A COUNTY COURT DECISION.

WITH reference to an annotation under the above heading that appeared in our issue of Feb. 22nd, the medical gentleman who was a suitor in the case (*Mr. H. D. Reynolds*) requests us to state that he is L.R.C.P. and M.R.C.S., and not, as was implied in the paragraph in question, L.R.C.P. only. We have great pleasure in making this correction, and regret that we were misled by a newspaper report.

THE communication of *Mr. Thomas Gambier* shall be borne in mind.

WONDERFUL SUBSTITUTE FOR COAL.

A GENTLEMAN recently communicated to the *Manchester Evening News* an extremely amusing suggestion on the great fuel question. The writer begins by admitting that the method he is about to propose "has been in use for some time in chemical laboratories," adding, however, that he is "under the impression that it has never yet been suggested as a means of replacing coal for domestic and manufacturing purposes." This impression is a perfectly correct one. The suggestion is as novel as it is amazing. It bursts upon us in the next paragraph, and we find that the great *arcanum* consists in the decomposition of water by electricity, and the combustion of the hydrogen and oxygen so obtained! The simplicity with which the details of the great scheme are described is almost pathetic. The two gases, which "never explode so long as they are present in proper proportions," are to be evolved from platinum plates by the agency of a galvanic battery. The gases, stored in separate gas holders, are to meet by intersecting jets in the centre of a room. There they burn and heat a ball of clay, which heats the room. *Voila tout!* The advantages of the new method, "besides its cheapness," are fully set forth; but it is scarcely worth while to recount them, seeing that the whole scheme is disposed of by the simple consideration that the force required to decompose water is precisely equal to the force produced during the recombination of its elements. Did it never once occur to our ingenious theorist that zinc is consumed during the action of a galvanic battery, and that zinc is somewhat more expensive than coal?

HOSPITAL STOPPAGES.

To the Editor of THE LANCET.

SIR,—With reference to the question as to whether it is politic to withhold the soldier's pay when in hospital from causes for which his own conduct is responsible, I cannot but think that it will be fraught with good.

As regards contagious disease, those who know what a barrack-room is will, I think, agree with me that it is absolutely impossible for a soldier to treat himself there in applying those so-called specifics, never mind from whom obtained. The manifest publicity of, and the entire absence of privacy in, the barrack-room, added to the surveillance exercised by the non-commissioned officer in charge of the room, whose duty it is to send a man to hospital, *nolens volens*, if he be in any way sick, all aid in preventing this. Nor will the stoppage cause concealment. In many regiments in the service it is customary to punish the soldier when admitted to hospital suffering from "direct" venereal disease, by stopping his leave, the period varying from one to three months; yet this punishment does not act in causing men to conceal their disease. Observation teaches us in the service that it is in nine out of ten cases the ill-conducted soldier whom we are called upon to treat for contagious disease, and when in hospital he is quietly massing up a sum of money, his solatio. On leaving hospital he hastens to spend it, and, as a consequence, in too many cases adds another "chalk" to his defaulter's sheet, returning, may be, on our hands with a relapse, or else with fresh infection.

The certainty of the stoppage will, I think, cause men to come early if they are infected; for the knowledge that concealment is impossible, the inability to avoid any of their daily routine of duty from sickness without being sent to hospital, and the fact that the longer they stay away the more severe, in all probability, will be their disease (the lengthened stay in hospital entailing on them the greater loss), must in the end produce that which will prove to be, to use Mr. Cardwell's words, "just to the public, and beneficial to the soldier." Though the penalty may not induce an improvement of morals in the vicious soldier, yet it will deprive him of some of the means of obtaining that which feeds his pet vice, let it be that of Venus or that of Bacchus. I am, Sir, yours faithfully,

Chichester, March 13th, 1873. CHARLES SPURWAY, Surgeon R.A.

A Pathologist is informed that there is in some cases, at any rate, of the so-called fatty heart an actual conversion of the muscular fibre into fat. Dr. Thomas Stevenson, of Guy's, on two occasions examined specimens for Dr. Moxon, and he found, on comparing the results of analysis with those obtained from a healthy heart, that while the normal heart yielded 0·68 per cent. of fat, specimens of fatty heart in one case yielded 1·54, and in the other 3·83 per cent. of fat.

Mr. O'Flanaghan's letter is much too long for insertion. The chief points of it have been discussed in our columns over and over again. We shall be glad of information as to his appeal to a higher court.

Enquirens.—THE LANCET, October 19th, 1872.

CASE OF DISTRESS.

To the Editor of THE LANCET.

SIR,—Will you kindly acknowledge the following subscriptions received by me for the widow and two children, whose case was brought under notice in THE LANCET of March 8th:—

A Friend...	£1	1	0	A Poor Surgeon	£0	2	6
Dr. Dale	1	1	0	J. Roche Lynch, Esq. ...	0	5	0
Wm. Lewis, Esq., Homburg	0	10	6				

I remain, Sir, yours truly,

12, Princess-square, Plymouth, March 16th, 1873. WM. DALE.

Roman Resident, (Piazza di Spagna) is referred to an interesting article in the *Saturday Review* for March 15th of the present year, on "Italy for Nervous Patients." We shall take up in detail the health of Rome very shortly.

MR. A. EASTON, L.R.C.S. ED.

WE are requested to contradict the announcement of the death of this gentleman, which appeared in the *Yorkshire Post* and numerous other newspapers.

M.D. Cantab. would be glad to ascertain what would be the prospects of a medical man seeking either an appointment or practice in the West Indies, and what would be the best steps to take in order to obtain such.

An Army Surgeon (Dublin) asks us how an assistant-surgeon (now surgeon) of over fifteen years' service stands under the new Warrant? Under the old Warrant an assistant-surgeon after fifteen years' service received 17*s.* 6*d.* per diem; while under the new one he will only be entitled to 15*s.* per diem under the same circumstances. We are informed, as we have already intimated, that provision will be made by the issue of a large *Gazette* to prevent any pecuniary loss to the late assistant-surgeons of more than fifteen years' service by their promotion to the rank of surgeon in the first place, to be followed by their subsequent promotion to the rank of surgeon-major. No provision has been made in the new Warrant for an increase of pay beyond fifteen years in the subordinate rank, in consequence, we presume, of its not being intended that officers of that service shall remain unpromoted.

Juvenis.—We do not think that dispensers are employed in the services referred to; but our correspondent should apply to the P. and O. Company.

REGIMENTAL SURGEONS.

To the Editor of THE LANCET.

SIR,—In your last issue "Watcher" and "Nemo" did well in opening a correspondence anent the injustice and hard lines which the new Warrant will entail on regimental men.

Mr. Cardwell promised that no officer should suffer if the Bill for the Abolition of Purchase became law, and he said the doing away with purchase was absolutely essential as the basis for Army Reform. Having gained his point, he began to pull down and reconstruct the whole of the army, and necessarily the medical department with the rest. Such being the case, I would ask, will he, true to his promise made to the Government and the country, recompense medical officers for the pecuniary loss they will sustain in being deprived of their regiments? For, in addition to payment of entrances to mess and band of fifty days' pay, there are subscriptions, cost of uniform, horses, saddlery, and the amount surgeons have paid for their regiments, which, in part at all events, if not the whole sum, they would receive back from their successors under the old system. This purchase dates with the over-regulation which has been paid to combatants, and has claims equally strong for recognition. The money was paid to get old officers to retire, relinquish their regiments, and cause thereby promotion in the same manner as the over-regulation, and not merely for exchanges properly so called, as their successors were not *Gazetted* vice So-and-so, who exchanges, nor was an exchange sanctioned or asked for, but a man having paid his money was *Gazetted* vice So-and-so, retired on half pay. No five years' tenure of a regiment can be a sufficient compensation. Vested interests ought to be respected, or sweeping reformers should pay for their whistle. I perceive chaplains and others, as in the Control, &c.,—officers adverse to sacrifice and pocket-picking,—have been allowed to serve under their former Warrants. Cannot this be granted to medicos, or has the emancipation of serfs not yet been extended to them? Apparently not, as we are bought, sold, and handed over, without having a voice in the matter, every few years. Please help us in this money confiscation.

Yours truly,

March, 1873. A GENERAL PRACTITIONER IN H.M. LAND FORCES.

To the Editor of THE LANCET.

SIR,—On issue of a Warrant like that of the 1st inst., presumably for the bettering the condition of the Army Medical Department, it is well for those affected thereby to consider in how far they are gainers or losers.

Firstly. *Gains.*—1. Promotion is *name* for surgeons and assistant-surgeons, to be styled surgeons-major and surgeons respectively. 2. Promotion from the junior rank after fifteen years' service, unless the vacancy be "otherwise filled," and provided "the surgeon pass such examination as our Secretary of State may require."

Secondly. *Losses.*—1. (Par. 5.) With short time of attachment to regiments, the medical officer now stands but a poor chance in the matter of choice of quarters. 2. The outlet afforded by the compulsory retirement clause of former Warrants is now rendered nil by the concluding "unless" sentence of Par. 20, by which any number of venerable aspirants may be left to stop the way of, considered by their friends in authority, "special cases for the good of the service." I am, Sir, yours, &c.,

London, March 16th, 1873. SURGEON-MAJOR.

Mr. R. F. Symmons, (East Hill.)—It is the rule, we believe, that the policy is forfeited under the circumstances stated in our correspondent's letter. There could be no objection to stating the facts in an appeal to the Office.

A Surgeon's Wife.—We would advise our correspondent to take her husband's advice on the question.

M.B.—There is no book on their comparative value; but papers are constantly appearing on the subject.

A Twenty Years' Subscriber.—1. Dr. Parkes's or Dr. Wilson's books.—2. Chapman and Wanklyn's Water Analysis.

'WARM THIEF.

To the Editor of THE LANCET.

SIR,—Permit me, through the medium of your columns to caution the profession against a thief, who called upon me on Friday, the 7th inst., and extracted from a drawer in my writing-table a "surgical dressing-case." It is unnecessary to trouble you with the details of how this was done. Suffice it to say that he applied to me in the ordinary course of business for medical advice, and whilst my back was turned the above article was removed.

He answered to the following description:—Height 5 ft. 4 in.; thin body; dark complexion; dark short hair; dark straight moustache; no whiskers. He had on a dark cutaway coat, dark waistcoat (with yellow curb chain without any ornament attached); he had also a Scotch cap, dark blue colour, with black ribbon streamers attached. Gave name of Kerr, written in pencil on blank card; address, 27, Oakley-street. He offered all kinds of references. He has an earnest, plausible manner, which is calculated to deceive. His remarks are ready and to the point, and from what he said I thought he was a medical student or assistant out of employ. He said he was a bookkeeper in the employ of the P. and O. Company in their office at Alexandria, and that he was home on leave for six months. I have offered £2 reward for his apprehension. Your obedient servant,

Markham-square, S.W., March 12th, 1873. S. CARTWRIGHT REED, M.D.

THE CORONER'S COURT IN LANCASHIRE.

To the Editor of THE LANCET.

SIR,—The state of things in this town seems to me so very peculiar that I venture to make a few remarks on the subject.

A short time ago I was called in the night to see a man who was said to be dying. On my speedy arrival, the house being only a few minutes' walk from home, I found the man dead. He was a well-nourished man, apparently about sixty years of age. I could assign no positive cause of death, but suspected a ruptured aneurism. His wife told me that he had complained of pain in the chest for some time, but that he had refused to consult a medical man. She said that he had felt unwell the previous day, and that he had suddenly in the night had what she called "a fit," complaining of great pain in the chest. Of course I refused to give a certificate, and told her that it would be necessary that an inquest should be held. However, though the chief constable, who seems to hold the office of coroner's officer, was informed of the case, he seemed to think it quite unnecessary that there should be any inquiry, and the death was accordingly registered.

Now, I have no reason to doubt the woman's statements, nor do I attach any suspicion to anyone of foul play in this case; yet it is very evident that such a state of affairs is not at all conducive to the safety of the public.

Early in the morning of Feb. 26th last I was called to see a woman, wife of a publican, said to be dying. Arriving at the house in about ten minutes, I found her dead. She had got up, and had been carrying a pail of water, and suddenly fell down. She was carried up and laid on the bed. She was a stout woman, and to all appearances healthy. I could assign no cause of death, but suspected aneurism, as in the last case. The police were informed of the matter. About two hours and a half later I again went to the house, and, in consequence of information received from several sources, examined the body externally in all parts. I found a great number of bruises in different parts, of apparently recent date, of which I took careful notes, expecting to be called to give evidence. The husband had told me that he suspected she had poisoned herself with some "vermin killer," some of which had been found in a tumbler, and also a packet of the same labeled "poison," but there was no maker's name on it; consequently it was impossible to tell what poison it contained without analysis. There were no signs whatever, as far as external appearances of the body went, to show that the cause of death was strychnia. In this case it was impossible to avoid an inquest. However, on the 28th I learnt that an inquest had been ordered for that day, but that another medical man had been summoned to attend and to make a post-mortem examination. I attended the inquest as a spectator, where I was much astonished at the medical evidence, a part of which I will presently relate.

The autopsy was made thirty-four hours after death. Little attention was given to the external marks of violence. The medical man was naturally not so well able to explain how much was due to violence and how much to post-mortem changes as one seeing the body immediately after death. "Rigor mortis was well marked. The toes were extremely pointed. Membranes of brain congested; choroid plexus greatly congested.* Right ventricle of heart had undergone fatty degeneration; left was hypertrophied; right full of blood; left empty, with its walls contracted. Lungs gorged with blood. Left pulmonary artery was ruptured, in consequence of the thinness of its walls, caused by the pressure of an aneurism of the descending portion of the arch of aorta, which, however, had not given way. About forty ounces of blood had been poured out into the pleura. Stomach contained some blue powder similar to the 'vermin-killer' found in the glass and in the packet." (It was assumed that the powder contained strychnia. No analysis was made, although the tests for strychnia are so simple, especially as so large a quantity of the powder was to be obtained.) "The condition of all the viscera showed that deceased had been in the habit of taking large quantities of stimulants."

In answer to the coroner as to what were the grounds for supposing that death was caused by strychnia—"1, pointing of the toes; 2, congestion of the choroid plexus; 3, congestion of right ventricle; 4, emptiness and contraction of left ventricle; if the pulmonary artery had burst from natural causes, the left ventricle would have been full of clotted blood; 5, gorging of the lungs." Coroner: "What was the cause of the hypertrophy of the left ventricle?" Witness: "Degeneration of the right ventricle." Coroner: "I suppose then that the left ventricle had to do all the work?" Witness: "Yes"!

Now, it was stated in evidence that this woman was attended some six months ago for taking a dose of "vermin-killer." Why was it necessary to assume that the congestion of the membranes of the brain was caused by strychnia, and not by alcohol? Is congestion of the choroid plexus (*par excellence*) a result of strychnia? Was it not easy to assume that the hypertrophy of the left ventricle was caused by the aneurism of the aorta, instead of starting such an extraordinary piece of pathology as degeneration of the left ventricle as its cause? The valves were healthy. Although, without doubt, a dose of "vermin-killer" had been taken, and with intent to commit suicide, was not the rupture of the pulmonary artery sufficient to cause death? And was it not a thing likely to happen at any time? Then why assume that death was caused by strychnia, without even taking the trouble to analyse the powder, or causing it to be analysed by a competent person?

The doctor is entirely ignored by the authorities here. Few inquests are held, and when they are it is very rare for the doctor to be summoned. A medical man at a charitable institution here told me that the whole time he has been in office he has been summoned but once, and then as a common witness, in the absence of the nurse. He mentioned a case of a man dying two hours after taking a dose of "Epsom salts." No medical witness was called, and the verdict was "Death from natural causes, probably caused by taking an over-dose of salts." He believes the "Epsom salts" was oxalic acid. He also mentioned two other cases of death—one from gross neglect on the part of the parents, causing death in a child, in which he refused a certificate, and said an inquest would be necessary; the other also from neglect. In neither of these was any inquest held. The chief constable did not think it necessary.

Even in the case mentioned, where a doctor was called and a post-mortem ordered, the matter was complicated by summoning a medical man who saw the case thirty-four hours after death, instead of the one who saw it first immediately after.

From what I have said, I think you will agree with me that the coroner's office in Lancashire is a farce, and is likely to remain so as long as the chief constables of towns have the management of these affairs, and the doctor is entirely disregarded. Yours faithfully,

Warrington, March, 1873. H. B. BLACKBURN, M.R.C.S.

* The medical man who assisted at the post-mortem examination told me the vessels were much enlarged. Deceased had been a great drinker.

Mr. N. B. Bogie.—Billroth states (p. 38) that v. Brun's ligature pins are small rods which are placed under the artery. The vessel is compressed by silk wound in (we presume figure-of-8) loops. Both the silk and the pins are removed in the course of forty-eight hours.

An Intending Candidate should apply to the Director-General of the Army Medical Department, 6, Whitehall-yard.

Mr. P. T. Molony, (Waterbeach, Cambridge.)—Concise notes of the case shall have our attention.

THE CASE OF THE REV. SEYMOUR MAJOR.

THE following amount has been received at THE LANCET Office on behalf of the above:—E. W. L., £5.

Mr. Guy.—The circular is utterly worthless.

SALTATORY PARASITES.

To the Editor of THE LANCET.

SIR,—From experience in England and on the Continent, including Austria and the hotels and inns of Italy, I can advise "M.B., M.D." to use the ordinary lavender of our gardens, kept with his clothes and in beds; or, if this is not at hand, good lavender-water or a solution of oil of lavender in spirit, sprinkled frequently, will do as well. When bitten, a touch with sal volatile will often allay the irritation at once.—Yours truly,

March 17th, 1873. FORMERLY MUCH BITTEN.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Anstie, London; Dr. Hassall, Ventnor; Dr. Buzzard, London; Dr. Pollock, London; Colonel Boyers, Streatham Common; Dr. Hall, Brighton; Mr. Messent; Dr. Fussell, Brighton; Mr. Follet; Mr. Harvey; Mr. Reynolds, Pembroke; Mr. Keys, Cloghan; Dr. Farley, Wellingborough; Mr. Ashurst, London; Mr. Morley, London; Mr. G. Renton, Carluke; Mr. Curry, Barnstaple; Mr. C. Holthouse, London; Mr. Cheavin, Boston; Dr. Attfield, London; Mr. O'Flanaghan, Houghton-le-Spring; Mr. Winton, Dorking; Mr. Parke, London; Dr. Mead, Whitby; Mr. Richards; Dr. Taylor, Scarborough; Mr. May, Reading; Mr. Hamilton, Liverpool; Mr. Carpenter, Amersham; Dr. Muil, Kirby Moorside; Dr. O'Farrell, Tamworth; Mr. Lee, Caterham; Mr. Tweddell, Houghton-le-Spring; Mr. J. Osborn, Huddersfield; Mr. Husband; Mr. Lowman, Burnley; Mr. Wood, Newport; Mr. Thelwall, Patricroft; Mr. Hutchinson, Wareham; Mr. Vacher, Birkenhead; Dr. Davies, Vere, Jamaica; Dr. Murdoch, Chichester; Mr. Shaw, Tamworth; Mr. Boydell; Mr. Hillyard, Heckington; Mr. Chisolm, Birmingham; Mr. Colman, London; Dr. Cresswell, Sidlesham; Mr. Gray; Mr. Keate, Shrewsbury; Mr. Thomas, Wandsworth; Mr. A. Godrich, London; Mr. Jackson, Seaton; Mr. Ledsawell, Moulton; Mr. Ellis, Morley; Mr. Bennet, Buxton; Mr. Hornibrook, Kinsale; Mr. Fearnall, Liverpool; Mr. Daunt, London; Mr. Lowe, Burton-on-Trent; Dr. Dale, Plymouth; Mr. Jenkins, Black Torrington; Mr. Ford, Bedford; Mr. Rickards, Birmingham; Mr. Brown, Penrith; Mr. Furnell, Madras; Mr. Merryweather, Guisborough; Mr. Vorley, Chepstow; Mr. Jones, Eckington; Mr. Pearse, Margate; Dr. Haldane, Edinburgh; Mr. O'Neil, Limerick; Dr. Owens, East Farleigh; Dr. Strange, Shrewsbury; Mr. Dray, London; Dr. Moir, Camelford; Mr. Shaw, Tamworth; Mr. Painton, Watford; Mr. Bagshawe, London; Mr. Felton, Liverpool; Mr. Hawke, Wellington; Mr. Curran, Mansfield; Mr. Lloyd, London; Dr. Glascott, Manchester; Mr. Cowell, London; Mr. Danver, Rochford; Mr. Hughes, Carnarvon; Mr. Goodman, Yoxford; Major-General Scott, London; Mr. J. Clayton, Huddersfield; Mr. Smith, London; Mr. Starling, Kensington; Mr. Bowen, Peterhead; Dr. Trend, Southampton; Mr. Tate, Whetstone; Mr. Boyd, Walthamstow; Mr. Parker, Reading; Mr. B. Anderson, Dublin; Mr. Barnett, Bangor; Mr. Leigh, Stamford; Mr. Beamish, South Helton; Messrs. Mackey & Co., London; Mr. Greer, Peterborough; Mr. Robinson, Dursley; Mr. Stewart, Glasgow; Dr. Provis; Mr. Evans, Llandovery; Messrs. Bancroft & Co., San Francisco; Mr. Hargreaves, Glasgow; Dr. Pyle, Sunderland; Mr. Bax, Newtown; Dr. Dalrymple, Norwich; Mr. Gambier, London; Mr. Morgan, Stafford; Mr. Leary, Buxton; Dr. Dyer, Sutton-in-Ashfield; Mr. Molony, Waterbeach; Mr. Good, Melbourne; Dr. J. Roche, Dublin; Admiral Key, Greenwich; Mr. Brocklehurst, Fairfield; Mr. Greening, Kidderminster; Mr. Ellis, Greenwich; Mr. G. Graham, Derby; Mr. J. T. Evans, Stratford; Mr. Dennis, Liverpool; Mr. S. Morton, Barmouth; Mr. Brocas, Oakham; Mr. Wood, Cupar; Dr. Rolfe, London; Dr. J. Collis Browne, London; Dr. Somerville, Foochow; Mr. Graham, Bridlington; Mr. Harrison, Nottingham; Mr. Bloxham, London; Mr. Stirling, Yeovil; Mr. J. Aldwinkle, Chester; Mr. May, Greenwich; Mr. Hitchcock, London; Mr. T. Hopgood, Chipping Norton; Mr. Marley, West Bromwich; Mr. Wallis, Stamford; Mr. Symmons, Colchester; Mr. Peele, Drymew; Mr. Stewart, London; Mr. Highton, Sowerby; Mr. Cooke, London; Mr. Richardson, Rochester; Mr. Cole, London; Mr. Hamilton, Ashton; Mr. de Grave; Mr. Pearson, Maryport; Mr. Braithwaite, Leighton Buzzard; Mr. Wagstaffe, London; Dr. Evans, London; Dr. Dickson, London; Mr. Weekes, Axminster; Mr. Gayleard, Newbury; Mr. Whidborn, Chadelow; Dr. Spencer, Clifton; Dr. Meredith; Enquirer; D. M. F.; Spiro Meliora; A Surgeon's Wife; The Director-General of the Medical Department of the Navy; E. H. L.; A Professional Surgeon; D.; The Secretary of the Devonshire Hospital, Buxton; Innocens; Police; Juvenis; Albinus; Veritas; Victoria; W. F.; A General Practitioner; M.D. Cantab.; &c. &c.

Dundee Advertiser, Mansfield Reporter, Morning Advertiser, Nottingham Journal, Midland Gazette, Portsmouth Times, Alloa Circular, Canada Lancet, Birmingham Daily Post, Eclectic Medical Journal of Pennsylvania, El Anfiteatro Anatómico Español, Canada Medical and Surgical Journal, Malvern Advertiser, Downpatrick Recorder, and *Philadelphia Press* have been received.

Medical Diary of the Week.

Monday, March 24.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Prof. Flower, "On the Osteology and Dentition of Extinct Mammalia."
MEDICAL SOCIETY OF LONDON.—8 P.M. Dr. Farquharson, "On an Epidemic of Roseola, or Spurious Measles."—Dr. Sansom, "On a Case of Disease of Pulmonary Valves in a Child" (with Patient).—Dr. Carpenter, of Croydon, "On a Case of Malignant Pustule, or so-called Charbon" (with Photograph).

Tuesday, March 25.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
GUY'S HOSPITAL.—Operations, 1½ P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.
ROYAL INSTITUTION.—3 P.M. Professor Rutherford, "On the Forces and Motions of the Body."
ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—8½ P.M. Dr. Vandyke Carter, "On the Pathology of Leprosy."—Mr. Barwell, "On a Case of Amputation at the Hip."

Wednesday, March 26.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.
LONDON HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
CANCER HOSPITAL.—Operations, 3 P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Prof. Flower, "On the Osteology and Dentition of Extinct Mammalia."
ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. Radcliffe, "On Mind, Brain, and Spinal Cord in certain Morbid Conditions."

Thursday, March 27.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. Mr. Vernon Harcourt, "On the Chemistry of Coal and its Products."

Friday, March 28.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
GUY'S HOSPITAL.—Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Prof. Flower, "On the Osteology and Dentition of Extinct Mammalia."
ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. Barnes, "On the Convulsive Diseases of Women."
QUEKETT MICROSCOPICAL CLUB.—8 P.M.
CLINICAL SOCIETY OF LONDON.—8½ P.M. Mr. Christopher Heath, "On a Case of Recto-Vesical Fistula in the Female, successfully treated by Operation."—Dr. John Ogle, "On a Case of Acute Rheumatism with Pericarditis, in which the amount of Effusion nearly necessitated Tapping of the Pericardium."—Dr. Headlam Greenhow, "On a Case of Thrombosis occurring in the course of the Syphilitic Cachexia."
ROYAL INSTITUTION.—9 P.M. Professor W. K. Clifford, "On the Meaning of Force and Energy."

Saturday, March 29.

HOSPITAL FOR WOMEN, Soho-square.—Operations, 9½ A.M.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M.
KING'S COLLEGE HOSPITAL.—Operations, 1½ P.M.
ROYAL FREE HOSPITAL.—Operations, 9 A.M. and 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. Prof. Max Müller, "On Darwin's Philosophy of Language."

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